

APPENDIX B

ROD for the Approved Project

RECORD OF DECISION

Blythe Solar Power Project and Amendment to the California Desert Conservation Area Plan

Riverside County, California

Lead Agency:

*United States Department of the Interior
Bureau of Land Management*

Environmental Impact Statement FES 10-41
Case File Number: CACA 048811

Blythe Solar Power Project Decision to Amend the CDCA Plan and to Grant

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Please Visit the Blythe Solar Web Page for the Appendices

<http://www.blm.gov/ca/st/en/prog/energy/fasttrack/blythe/fedstatus.html>

List of Abbreviations

AFC	application for certification
AO	authorized officer
ARRA	American Recovery and Reinvestment Act
BA	biological assessment
BLM	Bureau of Land Management
BO	biological opinion
BRSA	biological resources survey area
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
CTTM	Comprehensive Travel and Transportation Management
DNA	Determination of NEPA Adequacy
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
ECCMP	Environmental and Construction Compliance Monitoring Program
EO	Executive Order
EPA	Environmental Protection Agency
EPAct	Energy Policy Act
ESA	Endangered Species Act
FEIS	final environmental impact statement
FLPMA	Federal Land Policy Management Act of 1976
I-10	Interstate 10
kV	kilovolt
LLC	limited liability company
MDAPMD	Mojave Desert Air Pollution Management District
MOU	memorandum of understanding
MW	megawatt
NAHC	Native American Heritage Commission

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	notice of availability
NOI	notice of intent
NTP	notice to proceed
PA	programmatic agreement
PA/FEIS	plan amendment and final environmental impact statement
PMPD	presiding member's proposed decision
POD	plan of development
PPA	power purchase agreement
ROD	record of decision
ROW	right-of-way
RSA	Revised Staff Assessment
RWQCB	Regional Water Quality Control Board
SA/DEIS	staff assessment/draft environmental impact statement
SCE	Southern California Edison
SF	Standard Form
SHPO	California State Historic Preservation Office
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service

Executive Summary

This document constitutes the Record of Decision (ROD) of the United States Department of the Interior (DOI) and the Bureau of Land Management (BLM) for the Blythe Solar Power Project and Amendment to the *California Desert Conservation Area Land Use Management Plan* (1980, as amended) (CDCA Plan). This ROD approves the construction, operation and maintenance, and termination of the proposed Blythe Solar Power Project on approximately 7,025 acres of public lands in Riverside County, California, and amends the CDCA Plan to identify the Blythe Solar Project as a recognized power generation facility. These decisions were analyzed in the Plan Amendment/Final Environmental Impact Statement (PA/FEIS), issued on August 20, 2010 through the Environmental Protection Agency's Notice of Availability published in the Federal Register.

This ROD has two decisions: (1) a CDCA Plan Amendment; and (2) a right-of-way (ROW) grant decision under Title V of the Federal Land Policy and Management Act (FLPMA). The ROW will be granted to Palo Verde Solar I, LLC, and will allow the construction, operation and maintenance, and termination of the Blythe Solar Power Project that was analyzed in the PA/FEIS as the BLM's Agency Preferred Alternative, and which also is referred to as the Selected Alternative in this ROD. Amendment of the CDCA Plan is required to allow a solar energy generation project on this site because the site was not already identified as a site for power generation in the current Plan. The proposed CDCA Plan Amendment was reviewed by the Governor's Office of Planning and Research and was found to be consistent with state and local plans.

This decision reflects careful consideration of the information generated from the Blythe Solar Power Project environmental review process, and further reflects resolution of the issues brought to the BLM and the DOI through such process.

This ROD applies only to BLM-administered lands, and to the BLM's decisions on the Blythe Solar Power Project. Other agencies, including the California Energy Commission (CEC) and the U.S. Department of Energy (DOE), are responsible for issuing their own decisions and applicable authorizations for the Blythe Solar Power Project.

ES.1 Decision Rationale

These decisions fulfill legal requirements for managing public lands. Granting the ROW contributes to the public interest in developing renewable power to meet state and federal renewable energy goals. The stipulations in the grant ensure that authorization of the Blythe Solar Power Project will protect environmental resources and comply with environmental standards. These decisions reflect careful balancing of many competing public interests in managing public lands. These decisions are based on comprehensive environmental analysis and full public involvement. The BLM engaged highly qualified

technical experts to analyze the environmental effects of the Blythe Solar Power Project. During the scoping process and following the publication of the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS), members of the public submitted comments that enhanced the BLM's consideration of many environmental issues relevant to this project. The BLM, CEC, DOE, U.S. Fish and Wildlife Service, and other consulted agencies used their expertise and existing technology to address the important issues of environmental resource protection. The BLM and DOI have determined that all practicable mitigation measures contained in the PA/FEIS and the Biological Opinion which avoid or minimize environmental harm have been adopted.

1.0 Decisions

1.1 Background

This Record of Decision (ROD) for the Blythe Solar Power Project and Associated Amendment to the *California Desert Conservation Area Plan* (CDCA Plan) approves the construction, operation, maintenance, and termination (which includes decommissioning) of the proposed 1,000-MW Blythe Solar Power Project on approximately 7,025 acres of BLM-administered public lands in Riverside County, California, as analyzed in the *Final Environmental Impact Statement and Proposed Amendment to the California Desert Conservation Area Plan for the Blythe Solar Power Project* (PA/FEIS) and as noticed in the August 20, 2010, *Federal Register* (75 Fed. Reg. 51,479). This decision approves the Blythe Solar Power Project Agency Preferred Alternative as analyzed in the PA/FEIS, with some post-PA/FEIS modifications and clarifications. The Agency Preferred Alternative is also referred to as the Selected Alternative in the ROD.

This approval will take the form of a Federal Land Policy and Management Act (FLPMA) right-of-way (ROW) grant, issued in conformance with Title V of FLPMA and implementing regulations found at 43 Code of Federal Regulations (CFR) Part 2800. In order to approve the site location for the Blythe Solar Power Project, the BLM also approves a land use plan amendment to the CDCA Plan, with the resultant closure of three Open Off-Highway Vehicle Routes that traverse the approved project site.

The decisions contained herein apply only to the BLM-administered public lands within the Selected Alternative.

One ROW grant will be issued to Palo Verde Solar I, LLC for a term of 30 years with a right of renewal so long as the lands are being used for the purposes specified in the grant. The ROW grant will allow Palo Verde Solar I, LLC, the right to use, occupy and develop the described public lands to construct, operate, maintain, and terminate a concentrated solar thermal electric generating facility with four adjacent, independent solar plants of 250 megawatt (MW) nominal capacity each (for a total capacity of about 1,000 MW nominal capacity) in eastern Riverside County, as the BLM identified and evaluated in the PA/FEIS. The project site is located approximately two miles north of the I-10 freeway, and eight miles west of the city of Blythe, California, within Township 6 South, Ranges 21 and 22 East and Township 5 South, Range 22 East. Figure 1, provided in Appendix 5, Location Maps, shows the location of the project site.

Palo Verde Solar I, LLC may, on approval from the BLM, assign the ROW grant to another party in conformance with the Part 2800 ROW regulations. Construction of the project may be phased; however, the BLM typically requires the initiation of project construction within two years of the issuance of a ROW grant. In addition, initiation of construction will be conditioned on final approval by BLM of the construction plans. This

approval will take the form of an official Notice to Proceed (NTP) for each phase or partial phase of construction. If the approved project does not progress to construction, operation, or is proposed to be changed to the extent that it appears to the BLM to be a new project proposal on the approved project site, that proposal is subject to additional NEPA review.

The ROW is conditioned on implementation of mitigation measures and monitoring programs as identified in the PA/FEIS, the Biological Opinion issued by the United States Fish and Wildlife Service (USFWS), The National Historic Preservation Act (NHPA) Section 106 Programmatic Agreement (PA), the California Energy Commission (CEC) Conditions of Certification, and the issuance of all other necessary local, state, and federal approvals, authorizations and permits.

In addition to the commercial solar parabolic trough generating station, the other main features of the project include an administration building, parking area, maintenance building, switchyard, bioremediation areas, wastewater treatment facilities, access and maintenance roads, perimeter fencing, central gas pipeline, a distribution line, fiber optics line, and water wells; offsite project features include access to the site, a distribution line gas pipeline, fiber optics lines, and a double circuit 230 kilovolt (kV) gentle line that would connect into the power grid at the planned Southern California Edison Colorado River Substation approximately five miles southwest of the site.

Surveys and ground clearance are expected to begin in November 2010, and construction for Phase I A is planned to begin December 2010. Project construction will occur in three phases and total build-out is expected to take 69 months to complete. Commercial operation of Unit One is anticipated in May 2013, with subsequent units coming online in 6- to 12-month intervals.

The Blythe Solar Power Project is one of the first large-scale solar energy generation projects approved on public lands. The BLM worked closely with state and federal partners and the public in an unprecedented collaborative effort. Through this process, the BLM has gained insights into the complexity of permitting utility-scale renewable energy projects on diverse public lands, and the need for flexibility throughout the process. The BLM will continue to engage agency partners and the public in this constantly evolving environment.

1.1.1 Application/Applicant

Pursuant to an agreement with Solar Millennium jointly to develop the Blythe Solar Power Project, Chevron Energy Solutions submitted a Standard Form 299—"Application for Transportation and Utility Systems and Facilities on Federal Lands" with the BLM Palm Springs/South Coast Field Office for a ROW grant to Palo Verde Solar I, LLC. Palo Verde Solar I, LLC is a wholly-owned subsidiary of Solar Millennium and is the single applicant (Applicant) for the Blythe Solar Power Project. Solar Millennium is part of an international company in the renewable energy sector and a global leader in the

field of solar-thermal (parabolic trough) power plants. Together with the company's other subsidiaries and associates, the company covers all important business sectors along the value chain for solar-thermal power plants, including: financing, project development, technology development, and the turnkey construction and operation of power plants. The Applicant is seeking approval to construct, operate, and decommission the Blythe Solar Power Project and related facilities and infrastructure. The Applicant has demonstrated technical and financial capabilities as part of the ROW grant application process.

Parallel to the Federal ROW grant application process, an Application for Certification (AFC) for the project was filed with the CEC. Since filing its original ROW application with the BLM, the Applicant's development plans have been updated several times through submittals to the CEC project docket. The CEC project docket can be accessed online at

http://www.energy.ca.gov/sitingcases/solar_millennium_blythe/index.html.

The Applicant and Southern California Edison (SCE) have entered into a 20-year Power Purchase Agreement (PPA) for the provision of renewable electricity. The California Public Utilities Commission (CPUC) approved the PPA on July 8, 2010. The Applicant submitted a Large Generator Interconnection Application to the California Independent System Operator (CAISO) in January 2008. The CAISO Phase I Interconnection Study was released in July 2009, and the CAISO Phase II Interconnection Study was released in July 2010. The Applicant is currently negotiating the final terms for a Large Generator Interconnection Agreement (LGIA) with SCE, and expects to sign a LGIA in November 2010.

1.1.2 Purpose and Need

BLM's Purpose and Need

The BLM's purpose and need for the Blythe Solar Power Project is to respond to the Applicant's application under Title V of FLPMA for a ROW grant to construct, operate, maintain and terminate a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws.

1.1.3 EIS Availability, 30-Day Review, Protests

Pursuant to a July 2007 Memorandum of Understanding (MOU) between the BLM and CEC for the joint environmental review of solar energy projects, the BLM and CEC jointly prepared the SA/DEIS for the Blythe Solar Power Project, which included analysis of no action/no construction alternatives, and several construction alternatives, in addition to the proposed project. The SA/DEIS was circulated for agency and public comment between March 19, 2010, and June 17, 2010; those comments and BLM's responses are provided in the PA/FEIS. Comments on the SA/DEIS were used to develop the PA/FEIS.

Copies of the PA/FEIS (DOI Control No. FES 10-41), dated August 2010, are available at the BLM Palms Springs / South Coast Field Office (1201 Bird Center Drive, Palm Springs, California 92262) and the BLM California Desert District Office (22835 Calle San Juan de Los Lagos, Moreno Valley, California 92553). The PA/FEIS also is available online at the BLM website at:

http://www.blm.gov/ca/st/en/fo/palmsprings/Solar_Projects/Blythe_Solar_Power_Project.html.

Although not part of its normal EIS process, because of the unique nature of these projects and information gathered after the SA/DEIS had been published, the BLM made the PA/FEIS available for an additional 30-day public review/comment period. This comment period ran concurrently with the standard land use plan protest period from August 20, 2010, to September 20, 2010. Sixteen comment letters were submitted on the PA/FEIS. All substantive comments received during the 30-day protest period were reviewed and responded to by the BLM in this ROD. The BLM's responses to these comments are included in Appendix 1 to this ROD, *Response to Comments on the Final Environmental Impact Statement*. Six protests were filed; all have been resolved by the Director or withdrawn.

After issuing this ROD for the Blythe Solar Power Project, the BLM will publish a Notice of Availability of the ROD in the Federal Register.

1.1.4 BLM Authority under FLPMA and NEPA

Federal Land Policy and Management Act of 1976

FLPMA establishes policies and procedures for the management of public lands. In Section 102(a)(8), Congress declared that it is the policy of the United States that:

“ . . . the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use (43 U.S.C.1701(a)(8)).”

FLPMA Section 202 and the regulations implementing FLPMA's land use planning provisions (43 CFR subparts 1601 and 1610) provide a process and direction to guide the development, amendment, and revision of land use plans for the use of the public lands.

Title V of FLPMA (43 United States Code (USC) 1761-1771) authorizes the BLM, acting on behalf of the Secretary of the Interior, to authorize a ROW grant on, over, under, and through the public lands for systems for generation, transmission, and distribution of electric energy. The BLM's implementation of its statutory direction for ROW authorizations is detailed in 43 CFR Part 2800. The BLM Authorized Officer administers

the ROW authorization and ensures compliance with the terms and conditions of the ROW lease. “Authorized Officer” means any employee of the Department of the Interior to whom the agency has delegated the authority to perform the duties described in 43 CFR Part 2800. This authority is derived from the authority of the Secretary of the Interior, and may be revoked at any time. The authority to approve all actions pertaining to the granting and management of Title V ROWs on public lands is delegated to the respective BLM State Directors (BLM Manual 1203, Appendix 1, p.33). In California, the authority of the BLM State Director to approve actions pertaining to the granting and management of Title V ROWs has been further delegated to the Field Managers. In respect to this specific ROW grant, this authority has been delegated to the Field Manager of the BLM Palm Springs-South Coast Field Office, who will be responsible for managing the ROW grant for the Blythe Solar Power Project.

National Environmental Policy Act

Section 102(c) of the National Environmental Policy Act (NEPA) (42 USC 4321 et seq.) and the Council on Environmental Quality (CEQ) and DOI implementing regulations (40 CFR Parts 1500–1508 and 43 CFR Part 46) provide for the integration of NEPA directives into agency planning to ensure appropriate consideration of NEPA’s policies and to eliminate delay.

When taking actions such as approving CDCA Plan Amendments and ROW grants, the BLM must comply with NEPA and the CEQ’s regulations implementing NEPA. Compliance with the NEPA process is intended to assist federal officials in making decisions about projects and planning that are based on an understanding of the environmental consequences of the decision, and identifying actions that protect, restore, and enhance the environment. The SA/DEIS, PA/FEIS, and this ROD document the BLM’s compliance with the requirements of NEPA for the Blythe Solar Power Project.

CDCA Plan

In furtherance of its authority under the FLPMA, the BLM manages public lands in the California Desert District pursuant to the CDCA Plan, and its amendments. The Plan, while recognizing the potential compatibility of solar generation facilities on public lands, requires that all sites associated with power generation or transmission not specifically identified in the CDCA Plan for a specific project site be considered through the Plan amendment process. Because the CDCA Plan has not previously identified the Blythe Solar Power Project site for power generation, the Plan must be further amended to allow a solar energy generation project on that site. The planning criteria for considering an amendment to the CDCA Plan are discussed in CDCA Plan Chapter 4.10, *Land Use and Corridor Analysis*.

Guidance and Regulations

The BLM processes ROW grant applications for solar development in accordance with 43 CFR 2804.25 and the BLM’s 2008 “Guidance for Processing Applications for Solar

Power Generation Facilities on BLM Administered Public Lands in the California Desert District,” which states:

When all or part of a proposed renewable energy project is located in a designated utility corridor, the impacts of occupying the utility corridor must be analyzed, along with alternatives that would help mitigate the impacts to the utility corridor. The EIS prepared for a proposed solar energy project should analyze the impact that the project would have on the ability of the utility corridor to serve its intended purpose, i.e., would the corridor continue to retain the capacity to site additional utilities in the corridor or would the project so constrain the available land within the corridor that it would limit the corridor’s ability to locate additional linear facilities, e.g. transmission lines, pipelines, etc.

As discussed in PA/FEIS Section 3.6.3, *Existing Situation*, Blythe Solar Power Project solar generating facilities would not be within designated corridors; however, ancillary facilities associated with the project would be within a Section 368 Designated Corridor as defined by the Energy Policy Act (identified as Corridor 30-52, 2 miles in width), as well as a locally-designated Corridor K.

The potential project impacts related to occupying a utility corridor are evaluated in PA/FEIS Section 4.6, *Impacts on Lands and Realty*. In the immediate vicinity of the project site and within affected utility corridors, additional capacity is available for future projects. Joint use of the corridor is adequate to accommodate the Blythe Solar Power Project and its ancillary facilities, as well as currently authorized but yet unbuilt and pending projects.

1.1.5 Other Authorities and Policies

In conjunction with the FLPMA, applicable BLM authorities and policies also include:

- Energy Policy Act (119 Statutes 594, 600), Section 211, which states “It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on public lands with a generation capacity of at least 10,000 megawatts of electricity.”
- BLM’s Solar Energy Development Policy (April 4, 2007), which states the BLM’s general policy is issued under Instruction Memorandum 2007-097 Solar Energy Development Policy to facilitate environmentally responsible commercial development of solar energy projects on public lands and to use solar energy systems on BLM facilities where feasible. Applications for commercial solar energy facilities will be processed as ROW authorizations under Title V of FLPMA and 43 CFR, Part 2800. Commercial concentrating solar power (CSP) or photovoltaic electric generating facilities must comply with BLM’s planning,

environmental, and ROW application requirements, as do other similar commercial uses.

- Executive Order 13212 (May 18, 2001), which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the “production and transmission of energy in a safe and environmentally sound manner.”
- Secretarial Order 3285 (March 11, 2009), which “establishes the development of renewable energy as a priority for the Department of the Interior.”

DOE Authority under EPAAct

The DOE is a cooperating agency with the BLM on the PA/FEIS for the Blythe Solar Power Project. The Energy Policy Act of 2005 (EPAAct), as amended by Section 406 of the American Recovery and Reinvestment Act of 2009 (ARRA), Public Law 111-5, established a Federal loan guarantee program for eligible energy projects. Title XVII of the EPAAct authorizes the Secretary of Energy to make loan guarantees for a variety of types of projects, including those that “avoid, reduce or sequester air pollutants or anthropogenic emissions of greenhouse gases, and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued.” The purposes of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. The DOE’s purpose and need for action is to comply with its mandate under Title XVII of the EPAAct by selecting eligible projects that meet the goals of the Act.

The Applicant applied to the DOE for a loan guarantee under Title XVII of the Act, as amended, for Solar Power Units 1 and 2 of the Blythe Solar Power Project.

1.2 Information Developed Since the PA/FEIS

Since the preparation and publication of the PA/FEIS, new information has become available. This new information, described below, did not result in any significant modifications to the Selected Alternative or require any additional NEPA analysis.

Some minor clarifications, however, have been made to the Plan of Development (POD) and to the Environmental Construction Compliance and Monitoring Program (ECCMP) (Appendix 4 of this ROD) for the Blythe Solar Power Project. The POD will govern any inconsistency of fact relating to the project description.

- The PA/FEIS states that the routing of communications lines would be adjacent to the Black Rock Road, and the site access road. This is incorrect. Instead, voice and data communications for the Blythe Solar Power Project would be provided by a new twisted pair telecommunications (telecom) cable. The routing for this cable would

end at the existing infra-structure near Mesa Drive. The Blythe Solar Power Project also would have two other telecom lines required by the California Independent System Operator to provide operational data to the Colorado River Substation. The primary transmission-related telecom line would be strung overhead along the same poles as the 230 kV gen-tie line to the Colorado River Substation. Both of the buried telecom cables will be adjacent to the site access road for the portion north of I-10. The redundant telecom line will continue south of I-10 to the Colorado River Substation following the route of the gen-tie line, while the Blythe Solar Power Project telecom cable will follow Black Rock Road to Mesa Drive.

- Surveys of the gen-tie route for cultural and biological resources were completed during the spring of 2010, prior to publication of the PA/FEIS. The preliminary results of these surveys were provided to the BLM in a letter report dated May 11, 2010, with a final addendum submitted to BLM on July 23, 2010. The final report, however, was not submitted to the BLM until August 25, 2010, after publication of the PA/FEIS.

Biological surveys were conducted in spring 2010 for the disturbance area of the Reconfigured Alternative, in order to survey areas not surveyed in 2009, such as the re-routed gen-tie line. The major focus of the biological investigation was to assess potential impacts to special status plant and wildlife species that may occur within the proposed project biological resources survey area (BRSA) and the Reconfigured Alternative BRSA. Surveys were conducted to map vegetation communities and waters of the State and to determine the presence or absence of special status plant and wildlife species. These surveys were conducted in accordance with applicable regulations and established survey protocols for various special status species. The fieldwork focused on rare plant surveys, delineation of jurisdictional areas, protocol surveys for desert tortoise and western burrowing owl, avian point count surveys, and a general wildlife inventory.

- Since the publication of the PA/FEIS, fall surveys for botanical resources have been completed for the project site. The surveys did not encounter any plant species not previously identified during other botanical surveys and documented in the PA/FEIS.
- The PA/FEIS did not explicitly discuss the salvage of cactus and yucca plants as part of botanical resource mitigation. The salvaging of cactus and yucca prior to ground disturbing activities is consistent with BLM regulations and policy. The Applicant must implement the Decommissioning Plan dated October 4, 2010, as revised to include the salvage of cactus and yucca plants.
- The PA/FEIS did not discuss the Applicant-proposed mitigation measures for the evaporation ponds. PA/FEIS Section 4.21, *Impacts on Wildlife Resources*, correctly reports the results of a 1986 study, which showed that much of the risk of bird collisions came from their attraction to “adjacent evaporation ponds and agricultural fields.” The section should have discussed, however, the measures the Applicant proposed (as part of the project) to take to prevent the ponds from being an

attractant for birds. As noted in PA/FEIS Appendix G, Condition of Certification BIO-25 requires: (1) netting of all evaporation ponds to exclude birds and other wildlife; (2) additional visual bird deterrents and a rigorous monitoring program to verify that the netting is effective in excluding birds and other wildlife; and (3) adaptive management and remedial action to discourage wildlife use, if monitoring detects bird use at the ponds. The ECCMP applicable to the Blythe Solar Power Project (Appendix 4 to this ROD), includes clarifications to the PA/FEIS relating to mitigation measures in the following ways:

- One of the biological mitigation measures referenced in the PA/FEIS, BLM-BIO-21, has been superseded and is no longer required. This mitigation measure initially required the Applicant to create a new water source or acquire compensatory habitat to mitigate potential impacts to the spring foraging habitat for Nelson's bighorn sheep. The PA/FEIS refers to California Energy Commission Conditions of Certification throughout Chapter 4, *Environmental Consequences*, and in Appendix G, as such COCs were set forth in the August 11, 2010 Presiding Members' Proposed Decision. Since the COCs may change in the final license or as a result of amendments to the license, however, the PA/FEIS should have referred to the COCs as set forth in the license, as amended.
- To clarify the method and means that the Applicant shall use to communicate with the public and affected jurisdictions about the Blythe Solar Power Project (see, e.g., BLM-REC-2, BLM-REC-4 and OHV-1), the Applicant shall prepare a one-page fact sheet and submit it to the BLM's Palm Springs South Coast Field Office for appropriate distribution.
- The BLM's understanding of potential impacts to Colorado River Water from groundwater pumping associated with the project, and the potential need for an entitlement for Colorado River Water, has changed since the publication of the PA/FEIS. In the SA/DEIS for the project, the CEC and BLM did not determine whether groundwater pumping would result in impacts to Colorado River Water. Instead, the SA/DEIS stated, "[i]f new wells [for the Blythe Solar Power Project] will draw water from mainstream of the lower Colorado River," mitigation requirement SOIL&WATER-3 would require the Applicant to acquire an entitlement of offset to lower Colorado River water.

The PA/FEIS Section 4.19.5, *Residual Impacts after Mitigation Measures are Implemented*, implies, however, that groundwater basins are hydrologically connected to the Colorado River, and therefore the Applicant must obtain an allocation from the Colorado River. The PA/FEIS states "all or a portion of the groundwater production at the site will be considered Colorado River water. Consequently, the [project] has the potential to divert Colorado River water and that part, if not all of the water, would come from the Colorado River Basin." The PA/FEIS analyzed potential impacts to the Colorado River accordingly.

Since the publication of the PA/FEIS, it is the BLM's decision not to make a determination as to whether the groundwater for the Blythe Solar Power Project is Colorado River water. The California Energy Commission suggests in its Final Decision for the Blythe Solar Power Project that implementation of the Conditions for Certification and updated modeling may show that groundwater pumping will not draw down from the Colorado River. As a term and condition of the BLM authorized ROW for the project, the Applicant must comply with all CEC Conditions of Certification, which include water mitigation, modeling, and monitoring measures.

Moreover, the BLM has thoroughly reviewed the regulatory framework regarding the use of the accounting surface methodology of determining impacts to the Colorado River, and determined that no formal regulation exists that requires the Applicant to acquire an allocation at this time. The Bureau of Reclamation has not finalized its rule on the accounting surface methodology for the Colorado River. This ROD recognizes that, should a rulemaking ever be finalized on the currently proposed accounting surface, the BLM will work with the Applicant to ensure that appropriate processes are followed to obtain such an allocation.

- The BLM did not intend the visual resource mitigation measure BLM-VIS-1 to be imposed where views of the backs of solar troughs could not be visible outside the facility due to fences and other intervening structures or obstructions. As such, the Applicant will not be required to utilize this measure when it is unnecessary and ineffective.
- In instances where the mitigation measures (see Appendix 4 to this ROD) require the Applicant to submit compliance-related reporting to the CEC and to the BLM, the BLM and CEC will work together to avoid duplicative submissions where possible.

1.3 Decisions Being Made

1.3.1 Bureau of Land Management ROW Grant

Under federal law, the BLM is responsible for processing requests for ROW grant applications to determine whether and to what extent to authorize proposed projects, such as renewable energy projects and other appurtenant facilities, on land it manages. Because the project is a privately-initiated venture and would be sited on lands managed by the BLM, the Applicant applied for a ROW grant from the BLM pursuant to federal law and regulations. . In addition, BLM has limited the grant to those lands necessary for constructing, operating, maintaining, and terminating the authorized facilities on public lands. In addition, the grant includes conditions based on the PA/FEIS, the Biological Opinion, the Programmatic Agreement, and other applicable federal rules and regulations to protect public health and safety, and to ensure the project will not result in unnecessary or undue degradation of the public lands. On approval of the ROW grant, the Applicant will be authorized to construct and operate the 7,025 acre, 1,000-MW solar project if it meets the requirements specified in the ROD. The ROD requires the

Applicant to secure all necessary local, state and federal permits, authorizations and approvals before the BLM will issue an NTP for the first phase of the project. On receipt of the NTP, and by remaining consistent with it, the Applicant will be able to construct and operate the Blythe Solar Power Project on the proposed site.

1.3.2 Land Use Plan Amendment

Under the CDCA Plan, the Blythe Solar Power Project site is currently classified as Multiple-Use Class (MUC) L (Limited Use). The CDCA Plan provides guidance concerning the management and use of BLM lands in the California Desert while balancing other public needs and protecting resources. The CDCA Plan contemplates industrial uses analogous to the solar use analyzed by the proposed plan amendment, including utility rights-of-way outside of existing corridors, power plants, and solar energy development and transmission (CDCA Plan, p.95). The CDCA Plan provides in its guidelines that solar development in Class L areas “may be allowed after NEPA requirements are met” (CDCA Plan, p. 15). In the CDCA Plan ROD, the Assistant Secretary for Land and Water Resources discussed remaining major issues in the final CDCA Plan before he approved the same (CDCA ROD, p.10 et seq.). One of the remaining major issues was the allowance of wind, solar, and geothermal power plants within designated Class L lands (CDCA ROD, p. 15). That ROD recognized that:

These facilities are different from conventional power plants and must be located where the energy resource conditions are available. An EIS will be prepared for individual projects.

The recommended decision, which was ultimately approved, noted:

Keep guidelines as they are to allow these power plants if environmentally acceptable. Appropriate environmental safeguards can be applied to individual project proposals which clearly must be situated where the particular energy resources are favorable.

This issue, the allowance of wind, solar, and geothermal power plants on designated Class L lands in the CDCA, was approved by the Assistant Secretary for Land and Water Resources, and concurred in by the Secretary of the Interior on December 19, 1980. According to its terms, the BLM must amend the CDCA Plan to allow siting of a solar power generating facility within in the CDCA on MUC L lands.

Based on the MUC Guidelines provided in Table 1 in the CDCA Plan, solar uses are conditionally allowed in the MUC L designation contingent on NEPA requirements being met for the proposed use. The PA/FEIS and ROD for the Blythe Solar Power Project meet NEPA requirements for consideration of the project and for consideration of the project site as suitable for development. The CDCA Plan is specifically amended by this ROD to identify this site as suitable for the proposed type of solar energy development.

1.3.3 Revisions to Open Routes

In 2002, the BLM updated access plans and routes in the eastern Colorado Desert through the Northern & Eastern Colorado Desert Coordinated Management Plan (NECO) Amendment to the CDCA Plan. The NECO Amendment assigned access for off-highway vehicle (OHV) routes in the eastern Colorado Desert. Currently, there are five open routes traversing the project site. Open Route access is defined in the CDCA Plan as:

“Access on route by motorized vehicles is allowed. Special uses with potential for resource damage or significant conflict with other use may require specific authorization.”

The five open routes on the site are shown on Table 4.16-1 and on Figures 10 and 10a in the PA/FEIS. In order to accommodate the Selected Alternative, three open routes identified in the PA/FEIS (Routes 661085, 66113, and 66115) will be closed. These routes are comprised of approximately 4.5 miles of public access. With approval of the ROW grant, the BLM will designate these three open routes as closed. The perimeter of the project site will be fenced, which will prevent public access within the project site, except for access to holders of valid existing rights. The other routes in the project vicinity will remain open and are outside the ROW boundary for the Blythe Solar Power Project. (See additional discussion in Section 6.0, *Errata*, of this ROD.) There are at least five other designated routes under the NECO plan located east and northwest of the project boundary, as well as dozens of smaller and ancillary routes. These routes will remain available to public use and enjoyment and, as a result, extensive connectivity to public lands north of this project will continue to exist.

Additionally, since this project is located in Multiple Use Class L (Limited), OHV travel is allowed in open washes. In the original project design, the McCoy Wash would have been transected by the project, which would have resulted in the closure of the wash to OHV users. The footprint of the Selected Alternative as approved in this ROD, however, does not transect McCoy Wash, and user access to the Wash will not be affected. (See additional discussion in Section 6.0, *Errata*, of this ROD.)

The administrative process for revising designated routes, given the evolving and changing priorities for public lands, is described in the CDCA Plan Motorized Vehicle Access Element and in BLM guidance, *Clarification of Guidance and Integration of Comprehensive Travel and Transportation Management Planning into the Land Use Planning Process* (CTTM) (Instruction Memorandum 2008-014, Oct. 27, 2007). These revision processes recognize the changing contexts and need for flexibility in allowing OHV public access on BLM-managed lands. The Motorized Vehicle Access Element of the CDCA Plan (page 82) describes the process for changing the designations of vehicle access routes as:

“Decisions affecting vehicle access, such as area designations and specific route limitations, are intended to meet present access needs and protect sensitive resources. Future access needs or protection requirements may require changes in these designations or limitations, or the construction of new routes...Access needs for other uses, such as roads to private lands, grazing developments, competitive events, or communication sites, will be reviewed on an individual basis under the authority outlined in Title V of FLPMA and other appropriate regulations. Each proposal would be evaluated for environmental effects and subjected to public review and comment. As present access needs become obsolete or as considerable adverse impacts are identified through the monitoring program, area designations or route limitations will be revised. In all instances, new routes for permanent or temporary use would be selected to minimize resource damage and use conflicts, in keeping with the criteria of 43 CFR 8342.1.”

The BLM processes for revising route designations are further provided for in the CTTM policy. According to that policy, changes to a travel network in a limited area may be made through activity-level planning or with site-specific NEPA analysis. While changes to area designations (e.g., limited to open) require a plan amendment, changes to route designation (e.g., open to closed, closed to open) do not require a Land Use Plan amendment. This administrative process, along with the administrative process described in the CDCA Plan, is implemented to change the affected open routes on the project site to closed routes. The closure of these routes was described and analyzed in the PA/FEIS for the Blythe Solar Power Project, consistent with the CTTM policy.

1.3.4 What is not Being Approved

During pre-application, the Applicant contacted the BLM to evaluate a number of project site locations in which the 1,000-MW solar power project site was considered potentially feasible. The BLM discouraged the Applicant from including in its application alternate BLM locations with significant environmental concerns, such as critical habitat, Areas of Critical Environmental Concern, Desert Wildlife Management Areas (DWMAs), designated OHV areas, wilderness study areas, and designated wilderness areas or other sensitive resources. The BLM encouraged the Applicant to design a project with the fewest potential conflicts.

A total of 24 alternatives were developed for consideration in the joint CEC-BLM Staff Assessment and Draft Environmental Impact Statement (SA/DEIS). After the release of the SA/DEIS for public review, the BLM continued to consult and coordinate with Federal and State regulatory agencies regarding the project to avoid impacts to desert tortoise habitats, rare plants, and cultural resource sites eligible for National Register of Historic Places listing. As a result of these discussions, the terms conditions and requirements of the Biological Opinion and Programmatic Agreement will govern implementation of the Proposed Action.

As discussed in PA/FEIS 2.5.6, *Alternatives Considered but Eliminated from Detailed Analysis*, other alternative sites, technologies and methods were considered but eliminated from detailed analysis in the PA/FEIS for the Blythe Solar Power Project. Six alternatives (including the proposed action) were developed for full consideration in the PA/FEIS: no action alternative, a no project alternative with an amendment to identify the site as suitable for solar development, a no project alternative with an amendment to identify the site as unsuitable for solar development, the applicant's proposal, a reconfigured alternative, and a reduced acreage alternative

After consideration of the impact analysis in the PA/FEIS and comments from the public, federal and state agencies, and local groups and individuals, the Selected Alternative was identified as the Agency Preferred Alternative in the PA/FEIS. The rationale for this decision is discussed below in Section 3.1.

1.4 Right-of-Way Requirements

The BLM uses SF 2800-14 (ROW Lease/Grant) as the instrument to authorize the ROW grant for the project; it includes the Plan of Development (POD) and all other terms, conditions, stipulations, and measures required as part of the grant authorization. Consistent with BLM policy, the Blythe Solar Power Project ROW grant will include a diligence development and performance bonding requirement for installation of facilities consistent with the approved POD. Construction of the initial phase of development must commence within 12 months after issuance of the Notice to Proceed but no later than 24 months after the effective date of the issuance of the ROW grant. The holder shall complete construction within the timeframes approved in the Plan of Development, but no later than 24 months after start of construction or as otherwise approved by the BLM for phased construction.

1.4.1 Post-approval Siting Conformance Process

Surface disturbance locations and acreages identified in the PA/FEIS are anticipated to be sufficient for the construction and operation (including maintenance) of the project and all ancillary improvements. However, specific linear route alignments and other project engineering refinements often continue past the project approval phase and into the construction and operation phases. As a result, facility locations, work area locations and disturbed acreages locations documented in the PA/FEIS often have minor location shifts after project approval. The project applicant has conducted resource surveys beyond the extent of the facility descriptions identified in the document in anticipation of the need to make such adjustments in the construction and operation phase to minimize impacts to resources and facilitate minor changes in facility design.

The following describes the procedures to be used for addressing minor modifications to facility alignment and location. This procedure will be identified as a term and condition of the ROW grant.

Subsequent to issuance of the ROW grant, when work areas outside those identified in the ROW are found to be needed (whether on federal or non-federal lands), additional inventory and evaluation will be performed if necessary to ensure the impact on biological, cultural, and other resources are avoided or minimized to the maximum extent practicable. Revised facility locations and survey results would be documented and forwarded to the BLM in the form of a Conformance Request. BLM consultations will be required as necessary prior to approval of the Conformance Request. At the conclusion of project construction or as project phases are completed, as-built drawings must be provided to the BLM for the purpose of conforming the ROW to the as-built locations. All Conformance Requests will be documented and tracked to ensure the acreages of disturbance affected by post-authorization conformance changes remain within the limits of impacts analyzed in the PA/FEIS and approved in the ROD and ROW grant.

1.5 Summary of Conclusions

The Selected Alternative for the Blythe Solar Power Project is the action alternative that provides the most public benefits and avoids the most cultural, biological and hydrological resources for the following reasons:

- As a result of consultation with Tribal governments and representatives and the Programmatic Agreement, many cultural resources in the area are avoided by the Selected Alternative, or the impacts are substantially mitigated.
- Based on the conditions in the Biological Opinion/Conference Opinion and the ongoing consultation with the USFWS during project construction and operations, many biological resources in the area are avoided by the Selected Alternative, or the impacts are substantially mitigated.
- The applicant agreed to adopt the dry-cooling alternative as the proposed action in order to further reduce groundwater impacts within the sub-basin.
- In addition to the mitigation provided for in this ROD, the Applicant through the protest negotiation process has agreed to continue to work with the BLM on providing additional funding for the following enhanced desert wildlife management opportunities:
 - The Applicant, in coordination with the BLM, will work to identify specific fencing strategies along the I-10 Corridor or other heavily used access/recreation areas within the Chuckwalla DWMA to maximize protection of Desert tortoise by reduce direct or indirect mortality associated with recreational vehicle use;
 - The Applicant, in coordination with the BLM, will work to ensure enhanced funding is available to maintain certain existing infrastructure that is

currently used to enhance protection of Desert tortoise, including, but not limited to: road underpasses, fencing, gates, and barrier crossings;

- The Applicant in, coordination with the BLM, will work to identify specific habitat enhancements within the DWMA that could be used to increase habitat values for Desert tortoise and other sensitive species;
- The Applicant, in coordination with the BLM, will provide enhanced funding that may facilitate the BLM's restoration of illegal routes or closed routes. Illegal routes are those that have been created via unauthorized use of recreational off-highway vehicles in areas that are closed to such use.

As a result, the 1,000-MW Selected Alternative would result in less than or similar impacts to the other action alternatives related to cultural resources and biological resources.

Additionally, the Blythe Solar Power Project is expected to provide climate, employment, and energy security benefits to California and the nation. The project takes a major step toward meeting state and federal climate change goals. It will provide clean electricity for homes and businesses, and bring much-needed jobs to the area; Eastern Riverside County has a high unemployment rate: 12.7 percent (PA/FEIS, p. 4.13-3). The project is expected to create 1,004 jobs during peak construction, as well as 221 permanent, full-time jobs during the plant's operation (PA/FEIS, p. 4.13-12).

2.0 Mitigation and Monitoring

2.1 Required Mitigation

The Blythe Solar Power Project includes the following measures, terms, and conditions:

- Avoidance, Minimization, and Mitigation Measures provided in PA/FEIS Chapter 4, *Environmental Consequences*, and Appendix G, *Conditions of Certification*, as amended by the errata (Section 6.0 of this ROD);
- Terms and Conditions in the United States Fish and Wildlife Service Biological Opinion provided in Appendix 2, *Biological Opinion*, of this ROD, as such may be amended over time; and
- Terms and Conditions in the Programmatic Agreement provided in Appendix 3, *Programmatic Agreement*, of this ROD, supersede the mitigation measures identified in the PA/FEIS as BLM-CUL-1 through and including BLM-CUL-9.

The complete language of these measures, terms, and conditions is provided in the Plan of Development for the Blythe Solar Power Project as stipulated in the ROW grant for

compliance purposes. These measures, terms, and conditions are determined to be in the public interest pursuant to 43 CFR 2805.10(a)(1).

2.2 Monitoring, Mitigation, and Enforcement

Federal Regulations require the BLM, or other appropriate consenting agency, to adopt mitigation (40 CFR 1505.2(c)) and other conditions as established in the Final EIS or during its review and committed as part of the decision, unless such agency explains why such measures were not adopted. The agency may also provide for monitoring to assure that its decisions are carried out and should do so in important cases. The BLM must adopt a monitoring and enforcement program where applicable for any identified mitigation (40 CFR 1505.2(c)). The BLM shall:

- a. Include appropriate conditions in grants, permits or other approvals;
- b. Condition funding of actions on mitigation;
- c. Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures they have proposed and that were adopted by the agency making the decision; and
- d. Upon request, make available to the public the results of relevant monitoring (40 CFR 1505.3).

The ECCMP for the Blythe Solar Power Project is provided in Appendix 4 of this ROD. It is also available on the following BLM website:

http://www.blm.gov/ca/st/en/fo/palmsprings/Solar_Projects/Blythe_Solar_Power_Project.html.

As the federal lead agency for the Blythe Solar Power Project under NEPA, the BLM is responsible for ensuring compliance with all adopted mitigation measures for the Blythe Solar Power Project in the PA/FEIS. The complete language of all the mitigation and compliance measures terms, conditions, stipulations, including those found in the Biological Opinion, Programmatic Agreement, and ROW grant, is provided in the POD. The BLM also has incorporated this mitigation into the ROW grant as terms and conditions. Failure on the part of Palo Verde Solar I, LLC, as the grant holder, to adhere to these terms and conditions could result in various administrative actions up to and including a termination of the ROW grant and requirements to remove the facility and rehabilitate disturbances. All practicable means to avoid or minimize environmental harm have been adopted under this decision.

2.3 Mitigation Measures Not Adopted

Consistent with 40 CFR 1505.2(c), all practicable means to avoid or minimize environmental harm from the Blythe Solar Power Project have been adopted as discussed in the previous section. Also as discussed above, a ECCMP for the project

has been adopted and is provided in Appendix 4 of this ROD. There are no BLM identified mitigation measures that have not been adopted in this ROD or developed through the protest resolution process.

2.4 Statement of All Practicable Mitigation Adopted

As required in the BLM *NEPA Handbook H-1790-1* and 40 CFR 1505.2(c), all practicable mitigation measures have been adopted for the Blythe Solar Power Project. The complete language of those measures is provided in Appendix 4.

2.5 Coordination with Other BLM Monitoring Activities

In 2007, the BLM and the CEC formalized a Memorandum of Understanding (MOU) for the joint environmental review of solar thermal power plant projects to be located on public lands. In September 2010, that MOU was amended to ensure that jointly reviewed and approved solar thermal power plant projects, located on public lands, are constructed, operated, maintained, and terminated in conformity with the decisions issued by the BLM and the CEC.

That MOU Amendment specifically indicates that it is in the interest of the BLM and CEC

. . . to share in construction compliance, environmental compliance, design review, plan check, and construction, maintenance, operation and termination inspection (collectively 'compliance review') of solar thermal power plant projects on public lands, to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the state and federal levels, to develop a more efficient compliance review process, and to meet state and federal requirements.

As documented in the MOU Amendment, BLM will provide primary compliance oversight for the ROW terms and conditions that are required by the BLM and that are separate and apart from those for which the primary oversight is being administered by the CEC.

As part of the MOU Amendment, the BLM and CEC agree to communicate and cooperate in a manner in order to avoid duplication of efforts and to assist each other in effective implementation of compliance efforts for the construction, maintenance, operation, and termination of the Blythe Solar Power Project.

The MOU Amendment is an attachment to the ECCMP provided in Appendix 4.

The BLM recognizes that the CEC conditions of certification (COCs) are not generally within the enforcement authority of the BLM because those COCs are requirements originating in state law and regulations. While the Applicant must comply with those

measures, they are not directly enforceable by the BLM. For those COCs that are also within the enforcement authority of the BLM because of overlapping authorities, the BLM has incorporated provisions of those COCs into its ROW grant as its own terms and conditions subject to its enforcement authority.

In some instances, the BLM identified potential mitigation measures for impacts to public land resources that would not be, and have not been, identified as mitigation measures required by other agencies. In those instances, individual mitigation measures were developed by the BLM that will be incorporated in the ROW grant, and will be monitored and managed solely by the BLM. In addition, standard terms and conditions for approval of the use of public land will be incorporated in the ROW grant and, therefore, will be enforced by the BLM as part of any ROW grant approved for the Blythe Solar Power Project.

The BLM also is developing a protocol for long-term monitoring of solar energy development with Argonne National Laboratories, and the U.S. Department of Energy. The draft protocol recommends the development of a comprehensive monitoring program covering a broad list of resources. The draft protocol also recommends the involvement of other federal and state agencies with a likely interest in long-term monitoring, as well as stakeholder engagement. As the protocols are finalized for this monitoring program, the BLM expects to participate fully in these endeavors and to engage solar energy applicants. As long term monitoring plans evolve, the BLM and its assigns may exercise the United States' retained right to access the lands covered by the grant, and conduct long-term monitoring activities.

3.0 Management Considerations

3.1 Decision Rationale

This decision approves a ROW grant and associated plan amendment for the Blythe Solar Power Project in accordance with the Agency Preferred Alternative (Selected Alternative) as analyzed in the PA/FEIS. The BLM's decision to authorize this activity and to amend the CDCA Plan is based on the rationale described throughout the ROD and as detailed in the following sections.

3.1.1 Respond to Purpose and Need

Approval of the ROW grant for the Selected Alternative responds to the BLM's purpose and need for the Blythe Solar Power Project, by responding to the Applicant's application under Title V of FLPMA for a ROW grant to construct, operate, maintain and decommission a solar thermal facility on public lands in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws. The BLM's decision to amend the CDCA Plan is also necessary for meeting the agency's purpose and need for the action. The CDCA Plan, while recognizing the potential compatibility of solar generation facilities

on public lands, requires that all sites associated with power generation or transmission not already identified in that plan be considered through the plan amendment process. Therefore, prior to issuance of a ROW grant for the Blythe Solar Power Project, the BLM will amend the CDCA Plan as required to allow for solar use on the project site.

Under the Energy Policy Act of 2005, federal agencies are directed to encourage the development of renewable energy. By entering into an MOU with the CEC, National Park Service (NPS), U.S. Department of Energy (DOE), and the U.S. Army Corps of Engineers (USACE), the BLM has committed to work with state and federal agencies to achieve California's Renewable Portfolio Standards energy goals and greenhouse gas emission reduction standards in a manner that is both timely and in compliance with federal and state environmental laws. The purpose of the MOU is to assist with the implementation of applicable state and federal laws, regulations, and policies.

The construction, operation, maintenance, and termination activities associated with the Selected Alternative, either singularly or with mitigation, are in conformance with the following land use plans and policies:

- BLM policy and guidance for issuing ROW grants, including BLM Manual 2801.11;
- California Desert Conservation Area Plan of 1980, as amended; and
- Northern & Eastern Colorado Desert Coordinated Management Plan, 2002.

The Selected Alternative meets the BLM purpose and need for the Blythe Solar Power Project.

3.1.2 Achieve Goals and Objectives

Selection of the 1,000-MW Selected Alternative would accomplish the objectives of the purpose and need, including meeting power demand, as well as federal and state objectives for renewable energy development. The project complies with CDCA Plan objectives for the Multiple Use Class L – Limited, land use designation. Additionally, the BLM consulted extensively with several parties to identify project modifications that would minimize impacts to natural and cultural resources. The Selected Alternative provides the best balance between maximizing renewable energy capacity while reducing adverse impacts as compared to other action alternatives.

3.2 Required Actions

The following federal statutes require that specific actions be completed prior to issuance of a ROD and project approval:

3.2.1 Endangered Species Act of 1973

Under Section 7 of the Endangered Species Act, as amended (ESA, 16 U.S.C. 1531 et seq.) a federal agency that authorizes, funds, or carries out a project that “may affect” a

listed species or its critical habitat must consult with the United States Fish and Wildlife Service (USFWS). The Applicant submitted a draft Biological Assessment in March 2010 and a revised draft Biological Assessment in July 2010 in accordance with Section 7 of the ESA for potential effects to Desert tortoise (*Gopherus agassizii*). The USFWS issued a Biological Opinion for the Blythe Solar Power Project on October 8, 2010 which is provided in Appendix 2. The Biological Opinion concluded that the Blythe Solar Power Project would not adversely modify Desert tortoise critical habitat and would not be likely to jeopardize the continued existence of the Desert tortoise. Measures included in the Biological Opinion would reduce any anticipated adverse impacts, and the BLM's issuance of an NTP will require the Applicant to comply with the Biological Opinion. Furthermore, the ROW grant contains a standard stipulation that requires compliance with the Biological Opinion.

3.2.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668a-d) provides for the protection of bald and golden eagles by prohibiting, except under certain specified conditions, disturbance or harm of these species. To comply with the Act and based on the USFWS's recommendation (memo dated September 15, 2010, available as part of the project record), and in accordance with BLM's Instruction Memorandum (IM) 2010-156, the BLM will require the Applicant to develop an Avian Protection Plan (APP) within six months of initiating facility construction. This APP will identify steps the Applicant will take to ensure eagle impacts are mitigated to the extent possible including, but not limited to, on-going surveys, impact monitoring, and facility design.

3.2.3 National Historic Preservation Act of 1966

Section 106 of the National Historic Preservation Act (NHPA) (16 U.S.C. 470) requires federal agencies to take into account the effects that their approvals and federally funded activities and programs have on significant historic properties. "Significant historic properties" are those properties that are included in, or eligible for, the National Register of Historic Places. The BLM initiated consultation for the Blythe Solar Power Project under Section 106 of the NHPA, and the requisite process has been completed. A Programmatic Agreement for this project was executed by signature between the BLM and the California State Historical Preservation Officer (SHPO), Advisory Council for Historic Preservation, on October 7, 2010, pursuant to 36 CFR 800.14(b). The Programmatic Agreement is provided in Appendix 3 of this ROD, *Programmatic Agreement*. The terms and conditions of the Programmatic Agreement supersede the mitigation measures identified in the PA/FEIS as BLM-CUL-1 through and including BLM-CUL-9.

3.2.4 Clean Air Act, as Amended in 1990

Title 40 CFR Section 51 (Subpart W - Determining Conformity of General Federal Actions to State or Federal Implementation Plans), Title 40 CFR Section 93 (Subpart B -

Determining Conformity of General Federal Actions to State or Federal Implementation Plans) and 42 U.S.C. Section 7606(c) require federal actions to comply with the requirements of the 1990 amendments to the Clean Air Act (CAA, 42 U.S.C 7401Ch. 85). The Blythe Solar Power Project is expected to meet the requirements of the CAA based on compliance with the project mitigation, terms, conditions, and stipulations related to emission controls and reductions during project construction, maintenance, operation, and termination.

3.2.5 Incorporate CDCA Plan Management Considerations

The CDCA Plan Amendment is warranted. The record indicates that the Selected Alternative for the Blythe Solar Power Project can be constructed on BLM-administered lands, and that project construction will result in fewer significant, unmitigable impacts to biological resources, and produce a more economically feasible project, than would occur with the other build alternatives with comparable energy production analyzed in the PA/FEIS. The approval of the site location based upon NEPA satisfies the requirements of the CDCA Plan.

3.2.6 Identify Site Location per the California Desert Conservation Area Land Use Plan

The BLM has found that 7,025 acres in the Selected Alternative, as described in the PA/FEIS for the Blythe Solar Power Project, is suitable and can be designated for solar energy development based on compliance with the requirements of NEPA. The CDCA Plan amendment applies the public lands within the boundary of the project site for the Selected Alternative as shown in Appendix 5, Location Maps. The legal description of the project site is described in the ROW for this project to be granted by the BLM.

3.2.7 Statement of No Unnecessary or Undue Degradation

Congress declared that the public lands be managed for multiple use and sustained yield, in a manner to protect certain land values, to provide food and habitat for species, and to provide for outdoor recreation and human occupancy and use (43 USC 1701 (a)(7), (8)). Multiple use management means that public land resources are to be managed to best meet the present and future needs of the American public, balanced to take into consideration the long term needs of future generations without permanent impairment of the lands (43 USC 1702(c)). The BLM manages public land through land use planning, acquisition, and disposition, and through regulation of use, occupancy, and development of the public lands (Subchapters II and III, respectively, 43 USC 1711 to 1722, and 1731 to 1748).

The FLPMA specifically provides that in managing the use, occupancy, and development of the public lands, the Secretary shall take any action necessary to prevent unnecessary or undue degradation of the lands (43 USC 1732(b)). The process for siting and evaluating the Blythe Solar Power Project has included extensive efforts on

the part of BLM, the applicant, CEC, public commentors, and other agencies in order to identify a project that accomplishes the purpose and need and other project objectives, while preventing, to the extent possible, any unnecessary or undue degradation of the lands. These efforts have included:

- Siting of the proposed facility in a location in which solar power development can be authorized (following NEPA review), and which has not been specifically designated for the protection of any resources.
- Modification of the proposed boundaries of the facility to minimize impacts to mineral, biological, and other resources.
- Evaluation of project location alternatives which could meet the purpose and need for the proposed project, but result in the avoidance and/or minimization of impacts.
- The development of mitigation measures, including compensation requirements for the displacement of desert tortoise habitat, to further avoid or minimize impacts.

In addition, BLM ROW regulations at 2805.11(a)(1) to (5) require determinations for the following:

BLM will limit the grant to those lands which BLM determines:

- (1) You will occupy with authorized facilities;
- (2) Are necessary for constructing, operating, maintaining, and terminating the authorized facilities;
- (3) Are necessary to protect the public health and safety;
- (4) Will not unnecessarily damage the environment; and
- (5) Will not result in unnecessary or undue degradation.

The lands described in Section 3.2.6 of this ROD are the minimum necessary to accommodate the 7,025-acre project. All areas under the Selected Alternative that were not necessary for the construction, operation, and maintenance of the facilities were removed from the project description. The applicant has consolidated activities within the construction staging area to minimize the amount of additional temporary workspace needed to construct and assemble facility components. All temporary disturbances associated with underground utilities will be immediately restored to minimize erosion in accordance with approved restoration plans. Public health and safety will not be compromised by the project as construction work areas will be posted and public access to those areas controlled to prevent possible injury to the public. During operations site security will be maintained with perimeter control fencing and security personnel.

The Selected Alternative will achieve all of the beneficial impacts including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. Based on the comparative analysis of the ability of each alternative to meet the purpose and need, and the environmental impacts that would be associated

with each alternative as discussed in the PA/FEIS and as summarized above, the Selected Alternative was identified by BLM as the alternative that does not unnecessarily damage the environment or create unnecessary or undue degradation of the lands.

As noted above, Congress specifically recognized multiple use and sustained yield management for the CDCA, through the CDCA Plan, providing for present and future use and enjoyment of the public lands. The CDCA Plan identifies allowable uses of the public lands in the CDCA. In particular, it authorizes the location of solar power generating facilities in MUC L and other land classifications upon NEPA review. BLM has conducted that review, and as indicated in the PA/FEIS and portions of this ROD, has adjusted the project to meet public land management needs and concerns. In particular, the BLM has determined that the Selected Alternative meets national renewable energy policy goals and objectives and falls within the guidelines of the CDCA Plan.

In addition, the project meets the requirements of applicable ROW regulations inasmuch as it includes terms, conditions, and stipulations that are in the public interest; prevents surface disturbance unless and until an NTP is secured; is issued for a period of 30 years, subject to renewal and periodic review; and contains diligence and bonding requirements to further protect public land resources. This approval provides that public land will be occupied only with authorized facilities and only to the extent necessary to construct, operate, maintain, and terminate the project. BLM conditions of approval provide for public health and safety and protect the environment and public lands at issue. These conditions of approval include compliance with this ROD, the PA/FEIS, the Biological Opinion, NHPA Section 106 requirements and the Programmatic Agreement. All of these federal requirements provide the basis for BLM's determination that the project will not unnecessarily and unduly degrade these public lands.

3.2.8 Statement of Technical and Financial Capability

The FLPMA and its implementing regulations provide the BLM the authority to require a project application to include information on an applicant's technical capability to construct, operate, and maintain the solar energy facilities applied for (43 CFR 2804.12(a)(5)). This technical capability can be demonstrated by international or domestic experience with solar energy projects or other types of electric energy-related projects on either federal or non-federal lands. The Applicant has provided information on the availability of sufficient capitalization to carry out development, including the preliminary study phase of the project, as well as site testing and monitoring activities.

Palo Verde Solar I, LLC's statement of technical and financial capability is provided in the POD and the application for a ROW. Palo Verde Solar I, LLC is a private enterprise that is a wholly owned subsidiary of Solar Millennium, LLC. In turn, Solar Millennium, LLC, Berkeley, California, is the wholly owned subsidiary of Solar Millennium AG, Erlangen, Germany. Solar Millennium AG is an international company in the renewable energy

sector, with its main emphasis on solar-thermal power plants. The Solar Millennium Group specializes in parabolic trough power plants, a proven and reliable technology, and has achieved a leading position worldwide. The company covers all important business sectors along the value chain for solar-thermal power plants - from project development and technology to turn-key construction, as well as plant operation and investments in power plants. Based upon the information provided by the Applicant in its POD, the BLM has determined that it has the technical and financial capability required to construct, operate, and maintain the approved facility.

3.3 Relationship to BLM and Other Plans, Programs, and Policies

3.3.1 Tribal Consultation

The BLM conducted government-to-government consultation with a number of Tribal governments. The consultation and discussions revealed concerns about the importance and sensitivity of cultural resources on and near the Blythe Solar Power Project site, concerns about cumulative effects to cultural resources, and, further, that they attach significance to the broader cultural landscape. As a result of the Native American Consultation process, many important cultural resources were identified in the project area, and subsequently avoided in the Selected Alternative.

As described in Section 3.2.3, *NHPA Section 106 Programmatic Agreement*, the BLM also consulted with Native American Tribes and interested tribal members on the development and execution of a Programmatic Agreement for the Blythe Solar Power Project. In accordance with 36 CFR Part 800.14(b), programmatic agreements are used for the resolution of adverse effects for complex project situations and when effects on historic properties (resources eligible for or listed in the National Register of Historic Places [National Register]) cannot be fully determined prior to approval of an undertaking.

Based on the ongoing consultation with Tribal governments and representatives and the Programmatic Agreement, many cultural resources in the area are avoided by the Selected Alternative and unavoidable impacts are substantially mitigated. As a result, the Selected Alternative would result in impacts less than or similar to the other build alternatives related to cultural resources.

3.3.2 United States Fish and Wildlife Section 7 Consultation

The BLM permit, consultation, and coordination with the USFWS required for the Blythe Solar Power Project complies with the federal Endangered Species Act (ESA) (16 U.S.C. 1531 et seq.) regarding potential take of the Desert tortoise.

The USFWS has jurisdiction over threatened and endangered species listed under the ESA. Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. This consultation was initiated through the preparation and submittal of a Biological Assessment (BA), which described the proposed action to the USFWS. Following review of the BA, the USFWS issued a Biological Opinion, which is attached as Appendix 2 of this ROD, specifying the mitigation measures that must be implemented for any protected species. The Biological Opinion concluded that the Blythe Solar Power Project is likely to adversely affect Desert tortoise but not jeopardize the species or result in adverse modification of critical habitat for that species. Measures included in the Biological Opinion would reduce any anticipated adverse impacts. These measures are mandatory and are conditions of approval of this ROD.

Based on the conditions in the Biological Opinion and the ongoing consultation with the USFWS during project construction and operations, many biological resources in the area are avoided by the Selected Alternative or the impacts are substantially mitigated. As a result, the Selected Alternative would result in impacts less than or similar to the other build alternatives related to biological resources.

3.3.3 NHPA Section 106 Programmatic Agreement

Under Section 106 of the NHPA, the BLM consults with Indian tribes as part of its responsibilities to identify, evaluate, and resolve adverse effects on cultural resources affected by BLM undertakings. Adverse effects that the Selected Alternative could have on cultural resources will be resolved through compliance with the terms of a Programmatic Agreement under NHPA Section 106 (16 USC 470; 36 CFR 800.14).

The BLM prepared a Programmatic Agreement for the Blythe Solar Power Project in consultation with the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, CEC, interested Native American Tribes (including tribal governments as part of government-to-government consultation described earlier), and other interested parties. The executed Final Programmatic Agreement, provided in Appendix 3 of this ROD, will govern the continued identification and evaluation of historic properties (eligible for the National Register) and historical resources (eligible for the California Register of Historic Places), as well as the resolution of any effects that may result from the Blythe Solar Power Project. Historic properties and historical resources are significant prehistoric and historic cultural resources as determined by the BLM.

3.4 Consultation with Other Agencies

3.4.1 Consultation with Other Federal Agencies

United States Department of Energy

The DOE is the agency responsible for implementing key parts of the Energy Policy Act of 2005, including the federal loan guarantee program for eligible energy projects that employ innovative technologies. Title XVII of the Energy Policy Act authorizes the Secretary of Energy to make loan guarantees for a variety of types of energy related projects. The two purposes of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits.

The DOE was a cooperating agency with the BLM on the PA/FEIS. The purpose and need for action by the DOE is to comply with its mandate under the Energy Policy Act by selecting eligible projects that meet the goals of that Act. As such, the BLM provided the DOE with copies of the preliminary Draft EIS, the Draft EIS, the preliminary PA/FEIS, and the PA/FEIS for review. Except to define its purpose and need for the action, the DOE did not provide any comments to the BLM on the NEPA documents for the Blythe Solar Power Project.

United States Environmental Protection Agency

The EPA provided written comments on the proposed project and the EIS preparation during the scoping process, and written comments during the review period for the SA/DEIS as documented in PA/FEIS Section 5.5, *Public Comment Process*. The EPA also submitted comments on the PA/FEIS. The responses to EPA's comments on the PA/FEIS are provided in Appendix 1, *Response to Comments*, in this ROD.

United States Army Corps of Engineers

Project-related impacts to Waters of the U.S. require authorization by the USACE pursuant to Section 404 of the Federal CWA under a Standard Individual Permit subject to the CWA Section 404(b)(1) Guidelines. On August 2, 2010, the USACE determined that the project site does not support water resources meeting the definition of Waters of the U.S. and that a CWA permit will not be required.

3.4.2 Consultation with State, Regional, and Local Agencies

Section 5.5, below, lists other federal, state, regional and local agencies with which the BLM and/or the Applicant have consulted, as part of one or more of the following project phases: planning, scoping, public review of the SA/DEIS, and public review of the PA/FEIS. In addition to the NEPA coordination process, the Applicant may have to obtain permits and other approvals from other agencies or comply with requirements of

other agencies that did not provide written input on the project and/or the EIS. Those agencies include, but may not be limited to:

State Water Resources Control Board/Regional Water Quality Control Board

The State Water Board works in coordination with nine Regional Water Quality Control Boards (RWQCBs) to preserve, protect, enhance and restore water quality. The RWQCBs have authority to protect surface water and groundwater. Throughout the NEPA process, the BLM, CEC, and the Applicant have invited the RWQCBs to participate in public scoping and workshops and have provided information to assist them in evaluating the potential impacts and permitting requirements of the proposed project. The USACE determined that the project site does not support water resources meeting the definition of Waters of the U.S. and that a CWA permit will not be required. In the absence of Waters of the U.S., a CWA Section 401 Certification from the Lahontan Regional Water Quality Control Board (RWQCB) will not be required.

California Department of Fish and Game

The CDFG has the authority to protect water resources through regulation of modifications to streambeds, under Section 1602 of the Fish and Game Code. The BLM, CEC, and the Applicant have provided information to the CDFG to assist in their determination of the impacts to streambeds, and identification of permit and mitigation requirements. The CDFG also has the authority to regulate potential impacts to species that are protected under the California Endangered Species Act. The desert tortoise is listed under the California Endangered Species Act. The CDFG has asserted its jurisdiction over 593 acres of streambeds for direct impacts to jurisdictional waters to the State, and 183 acres for indirect impacts, within the Proposed Action project site. In November 2010, the Applicant submitted a Notification of Lake or Streambed Alteration for the Blythe Solar Power Project to the CDFG.

Riverside County

The 7,025-acre Selected Alternative contains no land under the jurisdiction of Riverside County. The BLM and CEC provided opportunities during scoping for the County to provide input to the environmental technical studies for the project. The County did not submit comments to the BLM on the DEIS or the FEIS.

3.5 Land Use Plan Conformance and Consistency

3.5.1 Conformance with the CDCA Plan

The California Desert Conservation Area Plan

The FLPMA (43 USC 1761; 43 CFR 1600, Section 501) establishes public land policy; guidelines for administration; and provides for the management, protection, development, and enhancement of public lands. The FLPMA specifically establishes BLM's authority to grant rights-of-way for the generation, transmission, and distribution of electrical energy as follows:

- (a) The Secretary, with respect to the public lands ... are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for:
 - (4) systems for generation, transmission, and distribution of electric energy

The FLPMA is relevant to the Blythe Solar Power Project because it establishes BLM's authority to grant a ROW on public lands for the generation, transmission, and distribution of electrical energy. Because the FLPMA authorizes the issuance of a ROW grant for electrical generation facilities and transmission lines, the Blythe Solar Power Project would be consistent with the FLPMA.

The CDCA Plan was developed as mandated by the FLPMA. Specifically, the CDCA Plan is the Resource Management Plan (RMP) for the Blythe Solar Power Project site and the surrounding area as required under the FLPMA. The CDCA Plan is a comprehensive, long-range plan that was adopted in 1980; it since has been amended many times. The CDCA is a 25-million-acre area that contains over 12 million acres of BLM-administered public lands in the California Desert, which includes the Mojave Desert, the Sonoran Desert, and a small part of the Great Basin Desert. Those 12 million acres of public lands are approximately half of the total land area in the CDCA. The site proposed for the Blythe Solar Power Project includes approximately 7,025 acres of BLM-administered land in the CDCA.

Goals and actions for each resource managed by the BLM are established in the 12 Elements in the CDCA Plan. Each Plan Element provides a Desert-wide perspective of the planning decisions for one major resource or issue of public concern, as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

The Blythe Solar Power Project site is classified in the CDCA Plan as Multiple-Use Class (MUC) L (Limited Use). MUC L "...protects sensitive, natural, scenic, ecological, and cultural resource values." Public lands designated Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. The CDCA Plan states, "... electrical generation plants may be allowed ..." within the Limited Use designation. Specifically, wind and solar electrical generating facilities "... may be allowed after NEPA

requirements are met.” Electrical generating facilities using nuclear and/or fossil fuels, however, are not allowed within the Limited Use designation. Approval of the Selected Alternative amends the CDCA Plan following the process anticipated in the CDCA Plan to identify the site as suitable for solar energy development. As stated in the PA/FEIS, the CDCA Plan Amendment would only apply to the BLM-administered land being evaluated for the Blythe Solar Power Project. Accordingly, the CDCA Plan Amendment and the overall amendment process are consistent with the CDCA Plan.

Need for a CDCA Plan Amendment

To accommodate the Blythe Solar Power Project, the CDCA Plan is being amended because “[s]ites associated with power generation or transmission not identified in the Plan will be considered through the Plan Amendment process.” As specified in CDCA Plan Chapter 7, *Plan Amendment Process*, there are three categories of Plan Amendments. Approval of the Blythe Solar Power Project would require a Category 3 amendment to the CDCA Plan to accommodate a request for a specific use or activity that will require analysis beyond the Plan Amendment Decision.

The CDCA Plan Amendment to designate (identify) the site of the Selected Alternative for solar energy generation is provided in the ROD through the following Land Use Plan amendment analysis.

Land Use Plan Amendment Analysis

The proposed Land Use Plan Amendment to be made by the BLM is a site identification decision only. Because the proposed solar project and its alternatives are located within MUC L, the classification designations govern the type and degree of land use action allowed within each classified area. All land use actions and resource management activities on public lands within an MUC designation must meet the guidelines for that class. MUC L allows electric generation plants for solar facilities after NEPA requirements are met. These guidelines are listed in Table 1, Multiple Use Class Guidelines, in the CDCA Plan. The specific application of the MUC designations and resource management guidelines for a specific resource or activity are further discussed in the plan elements section of the CDCA Plan. In Class L designations, the BLM Authorized Officer (AO) is directed to use his/her judgment in allowing for consumptive uses by taking into consideration the sensitive natural and cultural values that might be degraded.

The site for the Blythe Solar Power Project meets the MUC Guidelines (as applicable to this project and site) for the following reasons:

Air Quality: Class L lands, including the project site, are to be managed to protect their air quality and visibility in accordance with Class II objectives of the federal CAA. The worst-case emissions that would be associated with the Blythe Solar Power Project are provided in PA/FEIS Section 4.2, *Impacts on Air Quality*. Those values were compared to emissions objectives for air quality and visibility associated with Class II areas in 40

CFR 52.51, and are all well below the limitations required for Class II areas. Therefore, the Selected Alternative conforms to the Class II objectives referenced in the CDCA Plan guidelines.

Water Quality: Class L designations will be managed to provide for the protection and enhancement of surface and groundwater resources, and best management practices (BMPs) will be used to avoid degradation and to comply with Executive Order (EO) 12088. PA/FEIS Section 4.19, *Impacts on Water Resources*, evaluated the alternatives for the potential to impact groundwater and surface water resources. Development and operation of the Blythe Solar Power Project raised concerns about concentrated drainage and ensuing soil erosion and sediment transport offsite, as well as water quality. The incorporation of CEC Conditions of Certification WATER-1 through WATER-17 will reduce these potential impacts. Although the BLM has not established BMPs for solar projects, it has reviewed, and agrees with the implementation of, the BMPs that would be associated with the project and its alternatives. Those BMPs were derived from a variety of sources. Implementation of these BMPs, and BLM's standard terms and conditions requiring compliance with other federal, state, and local regulations, would constitute compliance with EO 12088. Those measures are applicable to all project alternatives, and would therefore conform to the Guidelines in Table 1 of the CDCA Plan.

Cultural and Paleontological Resources: Archaeological and paleontological values will be preserved and protected as described in PA/FEIS Section 4.4, *Impacts on Cultural Resources*. The Programmatic Agreement, provided in Appendix 3 to this ROD, specifically addresses compliance with 36 CFR 800 in project construction, operation, maintenance, and decommissioning, including identification of properties listed or eligible for listing on the National Register of Historic Properties. The identification of the project site was subject to the MUC Guidelines for cultural and paleontological resource protection as is evidenced by the applicability of the Guidelines to the specific facility proposal. As such, the project and the project site are within the MUC Guidelines for cultural and paleontological resource protection established by the CDCA Plan based on implementation of the PA.

Native American Values: Native American cultural and religious values will be protected and preserved on MUC L lands with appropriate Native American groups consulted. Repeated efforts and opportunities were provided to allow tribal entities to raise concerns regarding the project and, as a result, the cultural guidelines with respect to requirements for consultation were met. The concerns raised are addressed in the Programmatic Agreement in Appendix 3 to this ROD. The protection of cultural resources, as addressed in the Programmatic Agreement, ensures that preservation and protection of cultural and religious values is accomplished in accordance with the CDCA Plan MUC Guidelines.

Electrical Generation Facilities: Solar generation may be allowed on the project site after NEPA requirements are met. The analysis in the PA/FEIS, which addresses each

of the project alternatives, comprises the NEPA compliance required for this MUC guideline.

Transmission Facilities: Class L guidelines allow electric transmission to occur in designated ROW corridors. The Blythe Solar Power Project meets this guideline for the build alternatives by locating new transmission facilities in existing ROW corridors to the extent feasible.

Fire Management: Fire suppression measures in Class L areas will be taken in accordance with specific fire management plans, subject to such conditions as the BLM AO deems necessary. The project site is within the area covered by the BLM California Desert District and the Palm Springs South Coast Field Office and their relevant fire management and suppression policies, as well as by the Riverside County Fire Department.

Vegetation: Table 1 of the CDCA Plan includes a variety of guidelines associated with vegetation. These are addressed in the PA/FEIS as follows:

- *Native Plants:* Removal of native plants in Class L areas is only allowed by permit after NEPA requirements are met, and after development of necessary stipulations. Approval of the ROW grant for the Selected Alternative would constitute the permit for such removal. The mitigation measures in the PA/FEIS and conditions of approval described elsewhere in this ROD constitute the stipulations to avoid or minimize impacts from the removal.
- *Harvesting of Plants by Mechanical Means:* Harvesting by mechanical means also is allowed by permit only. Although the build alternatives would include the collection of succulents and seeds to assist with reclamation, the removal of these items would not be done for distribution to the public. Also, the guidelines for vegetation harvesting include encouragement of such harvesting in areas where the vegetation would be destroyed by other actions, which would be the case with the Selected Alternative. Because plants would not be distributed to the public, and harvesting would conform to the guidelines, , the Selected Alternative conforms to this MUC guideline.
- *Rare, Threatened, and Endangered Species, State and Federal:* In all MUC areas, all state and federally listed species will be fully protected. In addition, actions which may jeopardize the continued existence of federally listed species will require consultation with the USFWS. As evaluated in PA/FEIS Section 4.17, *Impacts on Vegetation Resources*, no federally or state listed plants would be impacted by the build alternatives. The Selected Alternative will result in impacts to an area supporting Sonoran Creosote Bush Scrub through fragmentation or permanent loss, but is not a sensitive plant group, and therefore the selected alternative conforms to the MUC guidelines.

- **Sensitive Plant Species:** Identified sensitive plant species will be given protection in management decisions consistent with BLM's policy for sensitive species management (BLM Manual 6840). The objective of that policy is to conserve and/or recover listed species, and to initiate conservation measures to reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing. As described in PA/FEIS Section 4.17, *Impacts on Vegetation Resources*, the Selected Alternative may impact land supporting California Native Plant Society-identified sensitive plants, including Harwood's Milk-vetch, Las Animas Colubrina, Harwood's Woollystar (*Eriastrum*), Ribbed cryptantha, Winged cryptantha, Utah milkvine, and Desert unicorn. With the exception of Harwood's Woollystar (*Eriastrum*), these plants are not BLM sensitive species and, moreover, the implementation of mitigation measures, including BIO-1 through BIO-8, BIO-14, BIO-19, BIO-22, BIO-23, and BIO-28, would avoid or minimize impacts on vegetation resources.
- **Unusual Plant Assemblages (UPAs):** No UPAs were identified on the project site.
- **Vegetation Manipulation:** Manipulation of vegetation in Class L areas by mechanical control or aerial broadcasting is not permitted. Vegetation manipulation is defined in the CDCA Plan as removing noxious or poisonous plants from rangelands; increasing forage production; creating open areas within dense brush communities to favor certain wildlife species; or eliminating introduced plant species. None of these actions would be conducted as part of the Selected Alternative. Therefore, action would conform to the guidelines.

Motorized Vehicle Access/Transportation: Pursuant to the CDCA Plan guidelines in Class L areas, new roads may be developed under ROW grants or approved plans of operations. In areas designated as limited use area for OHV use, such as the site locations under consideration for the project, changes to the transportation network (new routes, re-routes, or closures) in Limited areas may be made through activity-level planning or with site-specific NEPA analysis (BLM Instructional Memorandum 2008-014). Three of the five existing open OHV routes on the Blythe Solar Power Project site will be closed. These changes are made with the site-specific NEPA analysis provided in Section 4.16, *Impacts on Transportation and Public Access*, in the Final EIS, and therefore conform to the Plan guidelines.

Wildlife Species and Habitat: Table 1 of the CDCA Plan includes a variety of guidelines associated with wildlife. These are addressed PA/FEIS Section 4.21, *Impacts on Wildlife Resources*, as follows:

- **Rare, Threatened, and Endangered Species, State and Federal:** In all MUC areas, the CDCA Plan guidelines for wildlife require that state and federally listed species and their critical habitat be fully protected. Actions that may jeopardize the continued existence of federally listed species require consultation with the USFWS. As discussed in Section 4.21, *Impacts on Wildlife Resources*, the

Desert tortoise is federally listed. As specified in the guidelines, BLM conducted formal consultation with the USFWS in accordance with Section 7 of the Endangered Species Act. As a result of the consultation, the USFWS issued a Biological Opinion (See Appendix 2 to this ROD). As a term and condition of the ROW grant and consistent with the CDCA Plan guidelines, the Applicant is required to conform to all measures outlined in the Biological Opinion to minimize and mitigate impacts to desert tortoise.

- *Sensitive Species*: Identified species would be given protection in management decisions consistent with BLM's policy for sensitive species management (BLM Manual 6840). The objective of this policy is to conserve and/or recovered listed species, and to initiate conservation measures to reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing. Sensitive wildlife species, including special-status wildlife, evaluated in PA/FEIS Section 4.21, *Impacts on Wildlife Resources*, and PA/FEIS Appendix H, *Biological Cumulative Impacts Analysis*, include Desert tortoise, Nelson's bighorn sheep, Mojave fringe-toed lizard, golden eagle, American badger, desert kit fox, Western burrowing owl, Le Conte's thrasher, burro deer, and Couch's spadefoot toad. Impacts to these species were described in the PA/FEIS and all necessary consultation with the FWS was completed. Specific mitigation measures are included to prevent impacts to these species and therefore the selected alternative conforms to the MUC L guidelines.
- The Selected Alternative includes extensive mitigation to avoid and reduce adverse impacts to wildlife species. Introduction of native species is permitted in Class L areas, and habitat manipulation is allowed subject to environmental assessment, as is done within the PA/FEIS for the Blythe Solar Power Project. Therefore, the Selected Alternative conforms to these guidelines.
- The Selected Alternative does not involve the control of depredation wildlife and pests. Therefore, this guideline is not applicable to these actions.
- The implementation of mitigation measures, including BIO-1 through BIO-28, avoids or minimizes impacts of the project on wildlife resources.

The project and the site location do not impact the following public land resources or uses: Agriculture, Communication Sites, Environmental Justice, Livestock Grazing, Land Tenure Adjustment, Minerals, National Scenic or Historic Trails, Recreation (other than route closure), Waste Disposal, Wetland/Riparian Areas, Wild and Scenic Rivers, or Wild Horses and Burros. Therefore, these guidelines are inapplicable to the land use plan decision being made in this ROD.

Required CDCA Plan Determinations

As discussed in CDCA Plan Chapter 7, the BLM must make certain required determinations in amendments to the CDCA Plan. The required determinations and how

they were made for the CDCA Plan Amendment for the Blythe Solar Power Project are provided below.

Required Determination: Determine if the request has been properly submitted and if any law or regulation prohibits granting the requested amendment.

The Applicant's request for a ROW grant was properly submitted; the PA/FEIS was the mechanism for evaluating and disclosing environmental impacts associated with that application. No law or regulation prohibits granting the CDCA Plan Amendment.

Required Determination: Determine if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element.

The CDCA Plan does not currently identify any sites as solar generating facilities. Therefore, there is no other location within the CDCA that could serve as an alternative location without requiring an amendment similar to the one required for the Selected Alternative on the Blythe Solar Power Project site. The Selected Alternative does not require a change in the Multiple-Use Class classification for any area within the CDCA.

Required Determination: Determine the environmental effects of granting and/or implementing the applicant's request.

The PA/FEIS evaluated the environmental effects of approving the CDCA Plan Amendment and the ROW grant application for the Blythe Solar Power Project.

Required Determination: Consider the economic and social impacts of granting and/or implementing the applicant's request.

The PA/FEIS evaluated the economic and social impacts of the Plan Amendment and the ROW grant.

Required Determination: Provide opportunities for and consideration of public comment on the proposed amendment, including input from the public and from federal, state, and local government agencies.

A Notice of Intent (NOI) to amend the CDCA Plan was published in the Federal Register on November 23, 2009 (Volume 74, No. 224). Fourteen comment letters were received within the 30-day scoping period, which ended on December 23, 2009. In accordance with the NOI, issues identified during the scoping period are placed in the comment categories below.

- Issues to be resolved in the Plan Amendment: Comments were received regarding the purpose and need for the project; as well as concerns about the impacts to air, soils, water, biological, cultural and other resources that could occur if the CDCA Plan was amended to allow the proposed use. These comments were considered in the PA/FEIS.

- Issues to be resolved through policy or administrative action: Comments requesting that specific environmental impacts and mitigation measures be analyzed in the Final EIS were considered in the PA/FEIS.
- Issues beyond the scope of the Plan Amendment: Issues raised in comments that were determined to be beyond the scope of the EIS related to independent analysis of resource values of various renewable energy zones, the adequacy of “end of project life” planning and the relative balance among renewable energy generation options to meet the forecasted demand for 2020.

Required Determination: Evaluate the effect of the proposed amendment on BLM management’s desert-wide obligation to achieve and maintain a balance between resource use and resource protection.

The balance between resource use and resource protection is evaluated in the PA/FEIS. The FLPMA Title VI, as addressed in the CDCA Plan, provides for the immediate and future protection and administration of the public lands in the California Desert within the framework of a program of multiple use and sustained yield, and maintenance of environmental quality. Multiple use includes the use of renewable energy resources, and, through Title V of FLPMA, the BLM is authorized to grant rights-of-way for the generation and transmission of electric energy. The acceptability of use of public lands within the CDCA for this purpose is recognized through the CDCA Plan’s approval of solar generating facilities within Multiple-Use Class L. The PA/FEIS identifies resources that may be adversely impacted by approval of the Blythe Solar Power Project, evaluates alternative actions which may accomplish the purpose and need with a lesser degree of resource impacts, and identifies mitigation measures that, when implemented, would reduce the extent and magnitude of the impacts and provide a greater degree of resource protection.

CDCA Plan Decision Criteria

The CDCA Plan defines specific Decision Criteria to be used by the BLM in evaluating applications in the Energy Production and Utility Corridors Element of Chapter 3. The consideration of these Decision Criteria for the Blythe Solar Power Project is described below.

Decision Criterion: Minimize the number of separate rights-of-way by utilizing existing rights-of-way as a basis for planning corridors.

The Blythe Solar Power project helps minimize the number of separate rights-of-way by being proposed largely within existing utility corridors as described later in this section. Electrical transmission associated with the project around and south of I-10 will occur within these existing corridors.

Decision Criterion: Encourage joint-use of corridors for transmission lines, canals, pipelines, and cables.

The Blythe Solar Power Project solar generating facilities would not be within designated corridors; ancillary facilities associated with the project would, however, be located within designated corridors around and south of I-10. Placement of Blythe Solar Power project within existing designated corridors maximizes the joint-use of these corridors for electrical transmission.

Decision Criterion: Provide alternative corridors to be considered during processing of applications.

This decision criterion is not applicable to the Blythe Solar Power project. Placement of the proposed facility adjacent to existing corridors does not require designation of alternative corridors to support the project.

Decision Criterion: Avoid sensitive resources wherever possible.

The extent to which the Blythe Solar Power project has been located and designed to avoid sensitive resources is addressed throughout the PA/FEIS. The BLM and other federal regulations that restrict the placement of proposed facilities, such as the presence of designated Wilderness Areas or Desert Wildlife Management Areas, were considered in the original siting process used by the Applicant to identify potential sites for the project locations. The alternatives analysis considered whether the purpose and need of the project could be achieved with a different build alternative, but with a lesser effect on sensitive resources. That analysis indicated that the alternatives would likely result in generally similar impacts as the project.

Decision Criterion: Conform to local plans whenever possible.

The extent to which the Blythe Solar Power Project conforms to local plans is addressed in Section 5 of the PA/FEIS. Some comments on the SA/DEIS suggested that compliance with local land use plans (including the Riverside County General Plan; Palo Verde Valley Area Plan, which is an extension of the Riverside County General Plan; and Blythe Airport Land Use Plan) is required. However, these plans pertain to non-federal land in the vicinity of the site and do not control federal actions on federal land. Accordingly, decision criterion is not applicable to the Blythe Solar Power Project.

Decision Criterion: Consider wilderness values and be consistent with final wilderness recommendations.

The Blythe Solar Power project site is not in a designated Wilderness Area or Wilderness Study Area.

Decision Criterion: Complete the delivery systems network.

This decision criterion is not applicable to the Blythe Solar Power Project.

Decision Criterion: Consider ongoing projects for which decisions have been made.

This decision criterion is not applicable to the Blythe Solar Power Project. Approval of the project would not affect any other projects for which decisions have been made.

Decision Criterion: Consider corridor networks that take into account power needs and alternative fuel resources.

This decision criterion is not applicable to the Blythe Solar Power Project. The project does not involve the consideration of an addition to or modification of the corridor network.

3.5.2 BLM's Northern and Eastern Colorado Desert Coordinated Management Plan Amendment to the CDCA Plan

Various federal regulations, Executive Orders, and the CDCA Plan require the BLM to designate routes of travel as Open, Limited, or Closed to vehicular travel and to assure that resources are properly managed in a multiple use context.

In 2002, in an amendment to the CDCA Plan, the BLM identified and designated many routes of travel in the Northern & Eastern Colorado Desert Coordinated Management Plan (NECO) amendment. This amendment to the CDCA Plan clarified, updated, and assigned designations (Open, Closed, or Limited) to all travel routes within the NECO amendment area.

The project site is within the NECO amendment area. There are five open routes within the ROW grant boundary of the project site. The five open routes on the project site follow established dirt roads/trails on the site and are described in PA/FEIS Section 4.16, *Impacts on Transportation and Public Access – Off Highway Vehicle Resources*, and identified in Table 4.16-1, *Designated Routes within Blythe Project Area*.

The designated open routes on the project site will be affected by the project, which requires closure of three open routes. Specifically, three open routes located within the project footprint will be closed to public access. The closure of these routes is an administrative action by the BLM taken in conformance with current BLM policy.

Under the policy provisions of the BLM Washington Office Instruction Memorandum No. 2008-014, *Clarification of Guidance and Integration of Comprehensive Travel and Transportation Management Planning into the Land Use Planning*, selection and designation of individual routes within a Limited area is an implementation decision but is not a land use plan decision. All of the open routes affected by the Blythe Solar Power Project footprint will be closed to public access, except valid existing rights. The changes to the travel network (routes) in the Multiple Use Class L (Limited) (MUC-L) area within the Blythe Solar Power Project site are being closed upon the approval of the ROW authorization for the project. Those routes are described in Table 4.16-1 in the PA/FEIS.

The other routes in the project vicinity will remain open and are outside the ROW boundary for the Blythe Solar Power Project. (See additional discussion in Section 6.0, *Errata*, of this ROD.) There are at least five other designated routes under the NECO plan located east and northwest of the project boundary, as well as dozens of smaller and ancillary routes. These routes will remain available to public use and enjoyment and, as a result, extensive connectivity to public lands north of this project will continue to exist.

Additionally, since the project is located in MUC-L, OHV travel is allowed in open washes with the NECO planning area. In the original project design, the McCoy Wash would have been transected by the project, which would have resulted in the closure of the wash to OHV users. The footprint of the Selected Alternative as approved in this ROD, however, does not transect McCoy Wash, and user access to the Wash will not be affected. (See additional discussion in Section 6.0, *Errata*, of this ROD.)

3.5.3 Utility Corridors

The Blythe Solar Power Project site would not be within designated corridors; however, ancillary facilities associated with the project would. Locating parts of the proposed project within these utility corridors is consistent with the designation of those corridors by the BLM as utility corridors and would not adversely impact other uses in these corridors.

3.6 Adequacy of NEPA Analysis

Section 1.2 above discusses the modifications to the Selected Alternative that have occurred since the publication of the PA/FEIS due to necessary clarifications and/or new information (e.g., completion of biological surveys). None of the modifications discussed above alters the level of information provided to the public through the NEPA process, the description of the project, or the BLM's overall analysis of potential impacts by the BLM. Because these clarifications and modifications do not result in a change of impacts beyond those evaluated during the NEPA process, and are well within the Selected Alternative analyzed in the FEIS, additional or supplemental NEPA analysis is not required. (40 CFR 1502.9(c)).

The BLM provides the following rationale for the changes addressed in Section 1.2:

- Routing of Communication Lines:** The impacts associated with the transmission-related telecommunications (telecom) cables were not fully analyzed in the PA/FEIS. The primary transmission-related telecom line would be strung overhead along the same poles as the 230 kV gen-tie line to the Colorado River Substation. Impacts from this line are redundant to those already analyzed in the PA/FEIS for the 230 kV gen-tie line. Additionally, the redundant transmission-related telecom will be buried similar to Blythe Solar Power Project telecom cable, and therefore will result in

impacts redundant to those analyzed for the project-related telecom cable in the PA/FEIS.

- **Cultural and Biological Survey Report for Gen-Tie Route:** The preliminary results of these surveys were provided to the BLM in a letter report dated May 11, 2010, with a final addendum submitted to BLM on July 23, 2010. The final report, however, was submitted to the BLM on August 25, 2010, after publication of the PA/FEIS. The final report reflected only minor comments submitted by the BLM, and did not reflect new or substantially different information than was understood from the preliminary report. As such, this information does not alter the analysis as provided in the PA/FEIS.
- **Fall Botanical Surveys:** The botanical surveys conducted in fall 2010, after publication of the PA/FEIS, did not encounter any species not already discussed and analyzed in the PA/FEIS.
- **Cactus and Yucca Salvage Plan:** The salvaging of cactus and yucca prior to ground disturbing activities does not change the impacts to those plants on the project site as analyzed in the PA/FEIS.
- **Mitigation Measures for Evaporation Ponds:** The PA/FEIS failed to address the Applicant-proposed mitigation measures for avian species around the evaporation ponds, which reduce the likelihood of impacts to avian species. Through imposition of the mitigation measures, even if resident or migratory birds initially were attracted to the evaporation ponds, the netting would preclude use of the ponds for drinking, foraging, resting or nesting, and birds would be unlikely to linger in an area that provides no habitat or foraging opportunities. Accordingly, the aviation assessment in the PA/FEIS correctly concluded that, with the implementation of BIO-25, the Blythe Solar Power Project would not increase in the number of birds in the vicinity of the Blythe Airport.
- **Water Source Mitigation Option for Bighorn Sheep:** This mitigation measure initially required the Applicant to create a new water source or acquire compensatory habitat to mitigate potential impacts to the spring foraging habitat for Nelson's bighorn sheep. In light of amendments by the CEC to the license for the Blythe Solar Power Project, the mitigation for bighorn sheep includes acquisition of habitat only, and no longer includes the creation of a new water source. This change does not alter the analysis of the PA/FEIS because the Applicant will still mitigate impacts to bighorn sheep through the habitat acquisition option, as analyzed.
- **Communication with the Public:** The requirement that the Applicant develop a one-page fact sheet is ministerial and does not involve impacts to any resource areas.
- **Colorado River Water Permit:** Since the publication of the PA/FEIS, the BLM has refined its understanding of the proposed accounting surface methodology for the

Colorado River, and its potential applicability to the Blythe Solar Power Project. Due to the uncertainty of the current methodology, which the BLM relied upon in the PA/FEIS, the BLM is not making a determination as to whether the groundwater for the Blythe Solar Power Project is hydrologically connected to the Colorado River. The BLM fully analyzed in the PA/FEIS potential impacts of groundwater pumping on the Colorado River, if it is later determined that the groundwater basins are hydrologically connected to the Colorado River. As such, should the law ever require the Applicant to obtain an allocation of Colorado River Water, the PA/FEIS already analyzed those potential impacts.

- **Visual Resource Mitigation Measure:** The BLM has clarified that the Applicant will not be required to utilize mitigation BLM-VIS-1 on structures that are not otherwise visible to the public. This clarification does not alter the visual resource impacts as analyzed, because the visual experience of the public will remain the same.
- **Compliance-Related Reporting:** The BLM has clarified that the Applicant should avoid duplication between the CEC and BLM in compliance-related reporting on mitigation measures. Because this change is ministerial it does not involve impacts to any resource areas.

4.0 Alternatives

The Selected Alternative was chosen from among a total of 24 alternatives considered by the BLM, five of which were carried forward, in addition to the Proposed Action, for more detailed review; the remaining 19 alternatives were considered but eliminated from detailed analysis.

4.1 Alternatives Fully Analyzed

The Proposed Action and five alternatives were fully analyzed in the Blythe Solar Power Project PA/FEIS, Section 2.5.4. Each is described in detail in the PA/FEIS and summarized below.

4.1.1 The Proposed Action – Blythe Solar Power Project

The Proposed Action includes a solar thermal facility and double-circuit 230 kV power transmission line (gen-tie) on BLM-administered public land in eastern Riverside County. The Blythe Solar Power Project consists of four adjacent, independent power block units of 250 MW nominal capacity, each for a total nominal capacity of 1,000 MW commercial solar parabolic trough generating station and ancillary facilities. The project also includes onsite facilities, such as an administration building, parking area, maintenance building, switchyard, bioremediation areas, wastewater treatment facilities, access and maintenance roads (either dirt, gravel or paved), perimeter fencing, central gas pipeline, a distribution line, fiber optics line, and water wells. Offsite project facilities include

access to the site, a distribution line gas pipeline, and fiber optics lines. The double circuit 230 kV gen-tie line will connect into the power grid at the planned Southern California Edison Colorado River Substation approximately 5 miles southwest of the Blythe Solar Power Project. The total permanent footprint of the proposed on-site facilities will be fenced and, including rerouting drainage channels, will be approximately 6,840 acres. The proposed off-site linear facilities will be approximately 185 acres. The total estimated permanent footprint is approximately 7,025 acres.

4.1.2 Reconfigured Alternative

The Reconfigured Alternative would be a 1,000 MW solar facility like the Proposed Action and also would require a CDCA Plan amendment, the details of which are discussed in Section 2.5.4 of the PA/FEIS. The Reconfigured Alternative was developed by the Applicant in response to a data request submitted by the CEC. The alternative was developed to reduce impacts related to a major unnamed dry wash that flows through the proposed site along the southwestern side. Three of the proposed solar fields would remain at their proposed locations. Unit 3, i.e., the southwestern solar field would be relocated approximately 0.8 mile south of its proposed location, on approximately 1,350 acres of land (approximately 150 acres larger than Unit 3 as proposed, which was proposed at 1,200 acres). Of the total acreage of the Reconfigured Alternative, approximately 480 acres (a portion of Unit 3) would be outside of the ROW application area, but the alternative would remain entirely within BLM-administered lands. A modified ROW application would be required to incorporate these lands into the action area.

While the Reconfigured Alternative would reduce potential impacts to the dry wash, the project would require the ground disturbance and development of an additional 150 acres in order to reconfigure the solar parabolic troughs and related infrastructure. The overall disturbance for the Reconfigured Alternative is less consolidated than for the Agency Preferred Alternative, and would spread the impacts over a larger expanse of public land. Moreover, the Reconfigured Alternative would impact an additional 1.5 miles of designated off-highway vehicle routes of travel within the project area. Allowing for off-highway vehicle access is an important objective of the CDCA Plan. Therefore, the BLM did not select this alternative as the Agency Preferred Alternative.

4.1.3 Reduced Acreage Alternative

The Reduced Acreage Alternative would retain only Units 1, 2 and 4 of the Proposed Action, with the ability to generate 750 MW. Unit 3 (250 MW) would not be constructed. This alternative would require a CDCA Plan amendment. The details of this alternative are discussed in Section 2.5.4 of the PA/FEIS. This alternative would be located entirely within the Applicant's ROW grant application area as defined by the Applicant, and its footprint would occupy approximately 4,750 acres of land. Units 3 and 4, as proposed for the Proposed Action, were designed to share water treatment systems and water

storage tanks for dust control; the shared facilities are proposed to be located in Unit 3. As such, the shared facilities would need to be relocated to Unit 4.

This alternative was analyzed for two major reasons:

- It would eliminate approximately 25 percent of the Proposed Action, thereby reducing the degree of impacts for many resources areas; and
- It would eliminate the 1,200-acre southwestern solar field, which is located on flowing desert washes and, thereby, would reduce impacts to state waters and to desert dry wash woodlands, a vegetation community classified as sensitive by the BLM and CDFG, and to wildlife movement corridors.

Following detailed analysis in the PA/FEIS, the BLM did not select the Reduced Acreage Alternative as the Agency Preferred Alternative because the resulting project would produce 25% less electricity, and although this alternative may have slightly less impacts to a few resource areas, the slight reduction of impacts did not represent the best balance of uses for the public lands especially when considered with the Congressional, Presidential, and Departmental directives supporting renewable energy development on public lands (PA/FEIS Section 1.1) and the use of applicable mitigation to offset impacts.

4.1.4 No Action/No Project Alternative A

Under this No Action alternative, the ROW grant application would be denied, and the ROW grant would not be authorized. The CDCA Plan (1980, as amended) would not be amended.

4.1.5 CDCA Plan Amendment/No Action Alternative B

Under this No Action alternative, the ROW grant application would be denied, and the ROW grant would not be authorized. The CDCA Plan (1980, as amended) would be amended to identify the application area as unsuitable for any type of solar energy development.

4.1.6 CDCA Plan Amendment/No Action Alternative C

Under this No Action alternative, the ROW grant application would be denied, and the ROW grant would not be authorized. The CDCA Plan (1980, as amended) would be amended to identify the application area as suitable for any type of solar energy development.

4.2 Alternatives Not Fully Analyzed

The SA/DEIS considered a private lands alternative in detail consistent with the requirements of the California Environmental Quality Act (CEQA). This Private Lands Alternative is described in Section 2.5.6 of the PA/FEIS. The BLM considers the private

lands alternative as essentially equivalent to the No Action Alternative for the purposes of the NEPA analysis, and an unreasonable alternative to the BLM for a number of reasons as explained in the PA/FEIS. Generally, use of multiple private parcels would have presented too much uncertainty in the company's ability to obtain all the necessary leases, permits and approvals. Furthermore the BLM's NEPA Handbook (H 1790-1) states that "an action alternative may be eliminated from detailed analysis if it is ineffective (would not meet the purpose and need)." The Handbook further states:

For most actions, we recommend that the purpose and need statement be constructed to reflect the discretion available to the BLM, consistent with existing decisions and statutory and regulatory requirements; thus, alternatives not within BLM jurisdiction would not be "reasonable."

In addition, the private land alternative also was eliminated because it is economically infeasible, due to the conformation of the alternative site consisting of three unconnected areas. Although it theoretically would be possible to develop the solar units in non-contiguous areas, the cost of the project would increase due to the need for additional infrastructure (transmission, water, etc.) and expanded need for site security. Finally, approval of any specific private land alternative would remote and speculative, because site control for the proposed site would require the willing participation of 23 separate landowners. For these reasons, the private land alternative was eliminated from detailed study in the PA/FEIS.

In addition to the Private Lands Alternative, several other sites and a number of technologies for renewable energy were also considered but not carried forward for detailed analysis in the NEPA analysis. Generally, the alternative site locations were eliminated from further analysis because they would have substantially similar effects to the proposed Blythe Solar Power Project and other analyzed alternatives, or because they do not meet project objectives. The following alternative sites were evaluated in this analysis: i) East of Lancaster Alternative; ii) El Centro Alternative; iii) Johnson Valley Alternative; and iv) Chuckwalla Valley Alternative. Those alternatives are described in Section 2.5.6 in the PA/FEIS, including the rationale for why they were eliminated from detailed analysis in the environmental document. Generally, the BLM eliminated the alternative site locations from further analysis for the following reasons: site is too remote and speculative for the Applicant to gain site control of private site comprised of dozens to hundreds of separate parcels; development of the alternative site would not avoid or substantially reduce the adverse impacts of the proposed project; site is infeasible due to distance to transmission interconnection; development of the site would be inconsistent with objectives of the CDCA Plan because of impacts to recreation or special status species,

For purposes of comparison, several alternative solar generation technologies were evaluated as potential alternatives to the Blythe Solar Power Project, which would use the solar trough technology. The BLM considers the alternative technologies to solar, such as wind and geothermal, as essentially equivalent to the No Action Alternative for the purposes of the NEPA analysis, and an unreasonable alternative to the BLM for a number of reasons as explained in the PA/FEIS; as such, those alternatives were eliminated from further analysis. The following solar generation technologies, however, were considered in this analysis: i) Stirling energy systems technology; ii) solar power tower technology; iii) linear Fresnel technology; and iv) photovoltaic technology. Each of the alternative solar generation technologies is discussed in detail in Section 2.5.6 of the PA/FEIS, including the rationale for why they were eliminated from detailed analysis in the environmental document. Generally, alternative solar technologies were eliminated from further analysis because they would have substantially similar effects to the proposed project and other analyzed alternatives, and because this technology is not within the area of expertise of the Applicant, and therefore would not likely be technically or economically feasible for the Applicant to implement.

Finally, the BLM eliminated from further analysis the alternative of conservation and demand-side management, as discussed in detail in Section 2.5.6 of the PA/FEIS. Briefly, this consists of a variety of approaches to reduce electricity use, including energy efficiency and conservation, building and appliance standards, and load management and fuel substitution. This approach does not respond to the BLM's purpose and need to respond to Palo Verde Solar I's application, and is remote or speculative because it is not sufficient to address all of California's energy needs.

4.3 Environmentally Preferred Alternative

The environmentally preferred alternative would be either the No Action Alternative or the CDCA Plan Amendment/No Action Alternative B. Neither of these alternatives would allow development of the energy generating project and neither would have impacts on the ground. However neither of these alternatives would allow the development of renewable energy, which is a national priority.

4.4 Agency Preferred Alternative / Selected Alternative

As identified in PA/FEIS Section 2.5.5, *Preferred Alternative*, the BLM's preferred alternative (also referred to as the Selected Alternative in this ROD) is the proposed Blythe Solar Power Project. After the release of the SA/DEIS for public review in March 2010, the BLM continued to consult and coordinate with Federal and State regulatory agencies regarding possible refinements to the Proposed Action to further avoid impacts to resources on the project site. Through this collaborative process, the BLM and its consulting and cooperating agencies developed various mitigation and monitoring measures for incorporation into the Blythe Solar Power Project. The Selected Alternative includes all of the mitigation measures and Conditions of Certification

included in Appendix 4 to this ROD. This alternative provides the least environmental impacts to resources while allowing the development of a renewable energy project at the full capacity requested by the Applicant.

5.0 Agency and Public Involvement

5.1 Scoping

Scoping activities for the Blythe Solar Power Project were conducted by the BLM in compliance with the requirements of NEPA. While many of the scoping activities were conducted jointly with the CEC workshops, the BLM held a public scoping meeting on December 11, 2009 at the University of Riverside Palm Desert Campus. The Applicant, BLM, and CEC provided presentations describing the environmental review process. The BLM's scoping activities are described in detail in the Final Scoping Report Blythe Solar Power Project (January 2010).

Public notice regarding the proposed joint SA/DEIS and the scoping and public information meetings was provided in the "Notice of Intent To Prepare Two Environmental Impact Statements/Staff Assessments for the Proposed Chevron Energy Solutions/Solar Millennium Palen and Blythe Solar Power Plants, Riverside County, CA and Possible Land Use Plan Amendments" (74 Fed. Reg. 224, pp. 61169-61171, Nov. 23, 2009); the CEC "Notice of Informational Hearing and Public Site Visit and Bureau of Land Management Scoping Meeting" on January 12, 2010 and February 24, 2010; and the CEC "Notice of BLM and Energy Commission Staff Data Response and Issues Resolution/Scoping Meeting for the Blythe Solar Power Project" on March 24, 2010.

Public notice regarding the proposed joint SA/DEIS and the scoping and public information meetings was provided in the "Notice of Intent To Prepare Two Environmental Impact Statements/Staff Assessments for the Proposed Chevron Energy Solutions/Solar Millennium Palen and Blythe Solar Power Plants, Riverside County, CA and Possible Land Use Plan Amendments" (74 Fed. Reg. 224, pp. 61169-61171, Nov. 23, 2009); the CEC "Notice of Informational Hearing and Public Site Visit and Bureau of Land Management Scoping Meeting" on October 10, 2008; and the CEC "Notice of BLM and Energy Commission Staff Data Response and Issues Resolution/Scoping Meeting for the Blythe Solar Power Project" on December 2, 2008.

Written comment cards were received from attendees at the December 11, 2009, meeting and in response to the NOI, and a total of 14 comment letters were received during the scoping process. Many of the comments covered similar issues pertaining to the effects analysis of purpose and need, air, soils, water resources, biology, vegetation,

cultural resources, land use, public health and safety, noise vibration, recreation, socioeconomics, cumulative impacts, and the development of alternatives. These issues were described in the BLM Scoping Report, dated January, 2010.

5.2 Draft EIS Comment Period

The BLM and CEC jointly prepared the SA/DEIS for the proposed project incorporating information received during scoping. The SA/DEIS review period was initiated by publication of the Notice of Availability (NOA) in the Federal Register on March 19, 2010 (73 Fed. Reg. 61,902). Interested parties identified in the EIS mailing list were notified of the publication of the SA/DEIS. The comment period ended June 17, 2010.

The BLM received ten comment letters on the SA/DEIS. A number of the comments received on the SA/DEIS discussed the same issues or environmental concerns, including, among others, the adequacy of the data relied upon by the BLM, the purpose and need for the Blythe Solar Power Project, alternatives, biological resources, climate change and greenhouse gases, water rights, water quality, and cultural resources. Rather than repeat responses to these common comments, the BLM provided Common Responses. All public comments received were carefully analyzed and agency responses were included in Section 5.5 of the PA/FEIS.

5.3 Final EIS Comment Period

The EPA Notice of Availability of the PA/FEIS was published in the Federal Register on August 20, 2010 (75 Fed. Reg. 51479). As part of the environmental review process, the BLM provided an additional opportunity for agencies and the members of the public to review and comment on the PA/FEIS. This additional comment period lasted 30 days, began on August 20, 2010 and closed on September 20, 2010. During this additional review period, 16 comment letters were received. The BLM's responses to these comments are provided in Appendix 1, *Responses to Comments on the PA/FEIS*. The BLM reviewed the comments on the PA/FEIS and determined that they did not raise any significant new circumstances or information relevant to environmental concerns associated with the Blythe Solar Power Project. Therefore, no changes to the proposed decision were determined to be warranted.

5.4 Protest Period

As noted above, the EPA Notice of Availability of the PA/FEIS was issued on August 13, 2010. Release of the PA/FEIS initiated the 30-day protest period, which closed on September 20, 2010. During that period, any person who participated in the planning process and believed they would be adversely affected by the CDCA Plan Amendment had the opportunity to protest the proposed amendment to the Director of the BLM. Detailed information on protests may be found on the BLM Washington Office website:

http://www.blm.gov/wo/st/en/prog/planning/protest_resolution.html.

Six protests have been resolved by the Director or, as noted below, have been withdrawn by the protesting party. In general, protesters were not in support of the proposed amendment and raised the following issues, among others: range of alternatives, cumulative impacts analysis, appropriate use of Class "L" lands, and conformance with the CDCA Plan. At the request of various interested organizations, the BLM met, in accordance with its policy (BLM Land Use Planning Handbook, Appendix E, p. 6 (2005)) in an effort to resolve the protest issues raised by these organizations.

As a result of these meetings, a number of the protesting organizations and the project Applicant agreed to certain project conditions which were reduced to writing and presented to the BLM for inclusion in the BLM Preferred Alternative and as modifications to the Plan of the Development (see Appendix 6 to this ROD). These terms and conditions further describe and refine the mitigation measures identified in the FEIS and require (i) the acquisition of habitat for bighorn sheep in lieu of the option to construct a guzzler as compensation for habitat impacted by the project; (ii) the habitat acquisition attributes for bighorn sheep, desert tortoise and desert wash microphyll woodlands and the requirements for permanent protection for mitigation/compensatory lands and (iii) the creation of a fund for the implementation of certain conservation enhancement activities. According to the agreement between and among the project applicant and the organizations, these and other agreed-upon terms have been incorporated into a modified Plan of Development for the project. The BLM has analyzed these revised terms and conditions and determined that the terms and conditions fall within the alternatives analyzed in the PA/FEIS, and therefore do not require the BLM to supplement the PA/FEIS prior to issuance of the ROD. The BLM has accepted these agreed upon terms as part of the amended Plan of Development, and has incorporated into and will administer these terms as part of the ROW grant in accordance with 43 CFR 2805.12(i)(5), 2807.16, and 2807.17. The agreed upon terms are not subject to amendment without the agreement of the Applicant and the organizations and only if approved by the BLM in accordance with 43 CFR 2807.20. The organizations have withdrawn their protests.

In addition to the mitigation provided for in this Record of Decision, the Applicant, through the protest negotiation process, has agreed to continue to work with the BLM on providing additional funding for enhanced resource management within the Chuckwalla DWMA and adjacent environs. Such enhancements include but are not limited to:

Enhanced Desert Wildlife Management Opportunities

- The Applicant in coordination with BLM will work to identify specific fencing strategies along the I-10 Corridor or other heavily used access/recreation areas within the Chuckwalla DWMA to maximize protection of Desert tortoise by reduce direct or indirect mortality associated with recreational vehicle use;
- The Applicant in coordination with BLM will work to ensure enhanced funding is available to maintain certain existing infrastructure that is currently used to enhance protection of desert tortoise including but not limited to: road underpasses, fencing, gates, barrier crossings etc.;
- The Applicant in coordination with BLM will work to identify specific habitat enhancements within the DWMA that could be used to increase habitat values for Desert tortoise and other sensitive species;
- The Applicant in coordination with BLM will provide enhance funding that may facilitate BLM to restore illegal routes or closed routes. Illegal routes are those that have been created via unauthorized use of recreational off-highway vehicles in areas that are closed to such use.

5.5 Consultation/Coordination with Other Agencies and Entities

5.5.1 Governor's Consistency Review

The proposed CDCA Plan Amendment was reviewed by the Governor's Office of Planning and Research following the issuance of the PA/FEIS, and was found to be consistent with state and local plans.

5.5.2 United States Fish and Wildlife Consultation

Pursuant to the Endangered Species Act Section 7 consultation requirements (16 U.S.C. Section 1531 et seq.), the USFWS issued a Biological Opinion for the project, which is provided in Appendix 2, *Biological Opinion*, to this ROD.

5.5.3 National Historic Preservation Act

The BLM coordinated and consulted with potentially affected Native American Tribes pursuant to Section 106 of the National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. Section 470). NHPA Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. For the Blythe Solar Power Project, adverse effects that the proposed or alternative actions may have on cultural resources will be resolved through compliance with the terms of a

Programmatic Agreement (PA) reached in accordance with 36 C.F.R. Section 800.14(b). The PA governs the conclusion of the identification and evaluation of historic properties eligible for the NRHP, as well as the resolution of any adverse effects that may result from the proposed or alternative actions. The PA is attached to this ROD as Appendix 3.

5.5.4 Tribal Consultation

Tribal consultation occurs on a government-to-government level in accordance with several authorities, such as NEPA; the NHPA; the American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996), as amended; and Executive Order 13007 (May 24, 1996), concerning Indian Sacred Sites. For the Blythe Solar Power Project, the BLM conducted government-to-government consultation with a number of Tribal governments. The consultation and discussions revealed concerns about the importance and sensitivity of cultural resources on and near the Blythe Solar Power Project site, concerns about cumulative effects to cultural resources, and, further, that they attach significance to the broader cultural landscape. As a result of the Native American Consultation process, many important cultural resources were identified in the project area, and subsequently avoided in the Selected Alternative.

5.5.5 Department of Energy

The DOE provided language for the EIS that would allow the DOE to use the PA/FEIS to meet its NEPA requirements for purposes of making a funding decision pursuant to DOE programs.

5.5.6 United States Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) has jurisdiction to protect water quality and wetland resources under Section 404 of the Clean Water Act. Under this authority, the USACE reviews proposed projects to determine whether they may impact such resources, and/or be subject to a Section 404 permit. Throughout the Draft SA/EIS process, the CEC, BLM, and the Applicant provided information to the USACE to assist the agency in making a determination regarding its jurisdiction and need for a Section 404 permit. The USACE rendered a final opinion on August 2, 2010 concluding that the Blythe Solar Power Project does not affect waters of the U.S. and, thus, does not require such a permit.

5.5.7 United States Environmental Protection Agency

The EPA provided comments on the Blythe Solar Power Project during the scoping process, on the SA/DEIS and on PA/FEIS. These comments enhanced the BLM's consideration of many environmental issues relevant to this project.

5.5.8 Summary of State, Regional and Local Agency Consultation

In addition to coordinating with the California Energy Commission to prepare the joint Draft SA/EIS for the Blythe Solar Power Project as described above, the BLM also coordinated with a number of state, regional, and local agencies..

California Department of Fish and Game

The CDFG has the authority to protect water resources of the State through regulation of modifications to streambeds, under Section 1602 of the California Fish and Game Code. The CEC, the BLM, and the Applicant have provided information to the CDFG to assist in its determination of the impacts of the Blythe Solar Power Project to streambeds, and identification of permit and mitigation requirements. The Applicant filed a Streambed Alteration Agreement with CDFG on November 25, 2009. The requirements of the Streambed Alteration Agreement are included as a recommended Mitigation Measure. The CDFG also has the authority to regulate potential impacts to species that are protected under the California Endangered Species Act (CESA, California Fish and Game Code Section 2050, et seq.). On January 12, 2010, the Applicant filed an application for authorization for incidental take of the desert tortoise under CESA Section 2081(b). The requirements of the Incidental Take Permit are included as a recommended Mitigation Measure.

Mojave Desert Air Pollution Management District

The Mojave Desert Air Pollution Management District (MDAPMD) has authority to implement within its jurisdiction the requirements of the New Source Review (NSR) permitting program that was adopted as part of the 1977 Clean Air Act Amendments. NSR is a preconstruction permitting program that ensures that air quality is not significantly degraded from the addition of new and modified facilities and assures people that large new or modified industrial sources of air pollutants will be as clean as possible. Pursuant to this authority, the MDAPMD reviewed the proposed Blythe Solar Power Project, evaluated worst-case or maximum air quality impacts, and established control technology requirements and related air quality permit conditions. The MDAPMD issued a Final Determination of Compliance for the Blythe Solar Power Project on July 8, 2010.

Riverside County Fire Department

The Riverside County Fire Department provided comments on the PA/FEIS for the Blythe Solar Power Project. These comments enhanced the BLM's consideration of emergency and public service responders and response times.

Metropolitan Water District of Southern California

The District, a public agency and wholesale water retailer, provided comments on the SA/DEIS and the PA/FEIS for the Blythe Solar Power Project. These comments enhanced the BLM's consideration of issues related to water resources, including groundwater.

Additional State, Regional, and Local Agency Coordination

As noted above the state, regional, and local agencies consulted or communicated with include:

- Metropolitan Water District of Southern California
- Native American Heritage Commission
- Riverside County
- Riverside County Fire Department
- United States Environmental Protection Agency

The following non-governmental organizations also provided comments:

- Basin and Range Watch
- Center for Biological Diversity
- Defenders of Wildlife
- Greenaction
- La Cuna de Aztlan Sacred Sites Protection Circle
- Natural Resources Defense Council
- Sierra Club, California/Nevada Desert Energy Committee of the Sierra Club
- Wilderness Society
- The Wildlife Society

6.0 Errata

The purpose of these errata is to correct factual inaccuracies or typographical errors in the PA/FEIS for the Blythe Solar Power Project.

The Blythe Solar Power Project Plan of Development (POD) will govern in the event of any factual discrepancies between it and the PA/FEIS. To the extent that the clarifications below affect the project description, the POD will incorporate these clarifications. To the extent that such clarifications affect a mitigation measure, Appendix 4, *ECCMP*, contains the final language.

- Table ES-2 inadvertently omitted summaries of impacts related to cultural resources impacts for the Reconfigured and Reduced Acreage alternatives. Readers may refer

directly to the analysis of such impacts that was provided in PA/FEIS Section 4.4.3, *Differences Among Alternatives*.

- As corrected (with changes shown in redline/strikeout) Table ES-17 should have read as follows: “Transport large equipment in accordance with a permit from ~~complaint with~~ CalTrans.”
- PA/FEIS Chapter 2 incorrectly stated that the solar mirror washing for the Blythe Solar Power Project would require approximately 30 acre feet (af) per year of water. The correct amount is approximately 230 ac-ft/yr of water for mirror washing, and the PA/FEIS properly analyzed the impacts for 230 af per year. The total water demand during operation, including these 230 ac-ft, would be approximately 600af per year.
- PA/FEIS Section 4.2, *Air Quality*, incorrectly stated that there would be a total of four HTF ullage systems. The Blythe Solar Power Project would employ only one HTF ullage system, which would vent continuously at a low rate. Daily emission rates would be limited by CEC Condition of Certification (COC) AQ-21.
- The PA/FEIS incorrectly states that the gen-tie route “include[s] areas not previously surveyed for biological and cultural resources” (see, common response to comments concerning suggested supplementation/recirculation, PA/FEIS Section 5.5.4.7). In fact, the gen-tie re-route cultural resources survey was completed by AECOM between April 30 and May 28, 2010, and surveys for biological were also conducted during the spring of 2010, prior to publication of the PA/FEIS.
- PA/FEIS Section 4.8, *Impacts on Multiple Use Classes*, incorrectly stated that “[a]ll of the action alternatives would affect a small portion of critical habitat.” In fact, the Blythe Solar Power Project site (including the linear facilities) contains *no designated critical habitat for any listed species*, and the project would not affect any designated critical habitat. The sentence should have read “[a]ll of the action alternatives would affect a small portion of suitable habitat.”
- PA/FEIS Section 4.11, *Impacts on Public Health and Safety*, incorrectly stated that each unit of the Blythe Solar Power Project would store 1.3 million gallons of HTF. In fact, the project would use 2.2 million gallons of HTF (Therminol VP-1 Biphenyl (26.5 percent); Diphenyl Ether (73.5 percent)) per unit. This correct amount was identified in the CEC’s Presiding Member’s Proposed Decision (PMPD) and was used to develop COC HAZ-MAT-1. COC HAZ-MAT-1 refers to an Appendix A (Table 5.6-3R) that inadvertently was omitted from PA/FEIS Appendix G. Additionally, PA/FEIS Section 4.11 should have indicated that the Blythe Solar Power Project would use hydrogen for turbine cooling. The project would use hydrogen in the generator cooling loop and “tube trailer.” The cumulative (i.e., all 4 units) piping system inventory would be 1,400 pounds with 2,600 pounds in storage. The Blythe Solar Power Project would employ a pressure safety tank, crash posts, and pressure relief valves to ensure that the hydrogen is used and stored safely (see, HAZ-MAT-1 Appendix A (Table 5.6-3R)).
- PA/FEIS Section 4.16, *Impacts on Transportation and Public Access – Off Highway Vehicle Resources*, incorrectly states that the Blythe Solar Power Project would result in the loss of legal access to two inholdings. This is not the case. Legal access will be maintained. Also in PA/FEIS Section 4.16, the PA/FEIS incorrectly states,

“[t]he McCoy Wash, a navigable wash, would be transected by the project site which would result in closure of the wash to OHV users.” This is not the case. In fact, the McCoy Wash does not run through the site and the ROW grant authorized in this ROD does not include the McCoy Wash.

- PA/FEIS Section 4.21, *Impacts on Wildlife Resources*, discusses the proposed evaporation ponds. The section is inconsistent as to whether the project would use evaporation ponds; the PA/FEIS should have stated consistently that the project would use evaporation ponds. The PA/FEIS correctly reports the results of a 1986 study, which showed that much of the risk of bird collisions came from their attraction to “adjacent evaporation ponds and agricultural fields.”
- Table 4.21-2, *Comparison of Compensatory Mitigation Requirements for Proposed Action, Reconfigured Alternative, and Reduced Acreage Alternatives*, incorrectly reported the total desert tortoise compensatory mitigation as 7,02 acres. The correct amount is 7,027 acres.
- PA/FEIS *Glossary of Terms*, incorrectly defines the Secretary of the Interior. The correct definition is: The United States Secretary of the Interior is the head of the United States Department of the Interior. The Department of the Interior oversees such agencies as the Bureau of Land Management, the United States Geological Survey, and the National Park Service. The Secretary is a member of the President's Cabinet. The Secretary of the Interior is eighth in the United States presidential line of succession. The current Secretary of the Interior is former Senator Ken Salazar of Colorado.
- The PA/FEIS refers to California Energy Commission Conditions of Certification (COCs) throughout Chapter 4, *Environmental Consequences*, and in Appendix G, as such COCs were set forth in the August 11, 2010 Presiding Members' Proposed Decision; however, because the COCs may change in the final license or as a result of amendments to the license, the PA/FEIS should have referred to the COCs as set forth in the license, as amended. In light of such amendments, BLM-BIO-21 has been superseded and no longer is required.
- Compliance-13 requires the Applicant to petition the California Energy Commission pursuant to 20 CFR 1769 to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. The last paragraph of this measure inadvertently was excluded from PA/FEIS Appendix G, *Conditions of Certification*. That paragraph should read: “Verification Change: A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification.”
- AQ-SC7, concerning an Operations Dust Control Plan for the project site, was included in PA/FEIS Appendix G, *Conditions of Certification*; identification of this measure inadvertently was omitted from PA/FEIS Section 4.2, *Impacts on Air Resources*. The mitigation measure is included in Appendix 4 to this ROD, *ECCMP*.
- BLM-BIO-10, concerning the development and implementation of a final Desert Tortoise Relocation/Translocation Plan, was identified in PA/FEIS Section 5.5, *Public Comment Process*, but inadvertently excluded from Section 4.21, *Impacts on Wildlife*

Resources. However, BLM-BIO-10 has been superseded by revisions to the COCs and no longer is required.

- Concerning the “start of construction” as used in BLM-REC-4, -REC-5 and OHV-1, the BLM did not intend to extend the pre-construction schedule by imposing 60 days’ advance notice and, instead, is amenable to the correction to a 15-day requirement as proposed by the Applicant in its September 10, 2010, comment letter on the PA/FEIS.
- BLM-SOIL&WATER-11, -12 and -14, relate to climate change and flooding. The Applicant has submitted detailed designs for the first phase of drainage (for Units 1 and 2) to the California Energy Commission’s Chief Building Officer (CBO). The BLM has determined that compliance with such designs, with the approval of CBO for Units 1 and 2 and ultimately for Units 3 and 4, would be sufficient to address the concerns that are the focus of BLM-SOIL&WATER-11, -12 and -14. Thus, these measures have been superseded and no longer are required.
- Mitigation Measures in PA/FEIS Section 4.19 labeled as “WATER” should have been labeled “SOIL&WATER” as they are in PA/FEIS Appendix G, *Conditions of Certification*. Mitigation measures applicable to the project are set forth in full in the ECCMP included as Appendix 4 to this ROD. As corrected (with changes shown in redline/strikeout) the statement in Section 4.19.2, Discussion of Direct and Indirect Impacts [of operations on Water Resources], concerning rip-rap should have read as follows: “The Applicant has prepared a Draft Channel Maintenance Plan, which addresses some of the potential issues associated with long term operation of the channels. However, the plan does not adequately address the issue of the collection of offsite flows or the use of soil cement along areas subject to inflows from offsite watersheds. The document also references the use of riprap for erosion mitigation; however, riprap would not be allowed on the site where incompatible due to its incompatibility with biological resources in the area.”

7.0 Final Agency Action

7.1 Land Use Plan Amendment

It is the decision of the Bureau of Land Management to approve the Proposed Plan Amendment to the California Desert Conservation Area Land Use Management Plan (CDCA Plan, 1980, as amended) to identify the project site as available for solar energy development. The Proposed Plan Amendment and related Environmental Impact Statement (EIS) was published on August 20, 2010 in the Federal Register (75 Fed. Reg. 51479). I have resolved all protests on the Proposed Plan Amendment and, in accordance with BLM regulations, 43 CFR 1610.5-2, my decision on the protests is the final decision of the Department of the Interior.

Based on the recommendation of the State Director, California, I hereby approve the Proposed Plan Amendment. This approval is effective on the date this Record of Decision is signed.

Approved by:



Robert V. Abbey
Director
Bureau of Land Management

10-21-10

Date

7.2 Right-of-Way and Route Closure Authorization

It is my decision to approve a solar energy right-of-way lease/grant to Palo Verde Solar I, LLC, subject to the terms, conditions, stipulations, Plan of Development, and environmental protection measures developed by the Department of the Interior and reflected in this Record of Decision. It is my further decision to close routes within the solar energy power facility site as described in this Record of Decision and its Final EIS. These decisions are effective on the date this Record of Decision is signed.

Approved by:



Robert V. Abbey
Director
Bureau of Land Management

10-21-10

Date

7.3 Secretarial Approval

I hereby approve these decisions. My approval of these decisions constitutes the final decision of the Department of the Interior and, in accordance with the regulations at 43 CFR 4.410(a)(3), is not subject to appeal under Departmental regulations at 43 CFR Part 4. Any challenge to these decisions, including the BLM Authorized Officer's issuance of the right-of-way as approved by this decision, must be brought in federal district court.

Approved by:



Ken Salazar
Secretary
U.S. Department of the Interior

OCT 22 2010

Date

APPENDIX 1

Responses to Comments on the PA/FEIS

The Bureau of Land Management (BLM) prepared the PA/FEIS for the Blythe Solar Power Project (BSPP) in consultation with cooperating agencies, taking into account public comments received during the National Environmental Policy Act (NEPA) process. The PA/FEIS analyzed the proposed CDCA Plan Amendment and project decisions and responded to written comments received during the public review period for the SA/DEIS (see PA/FEIS Section 5.5, *Public Comment Process*). Although not required by FLPMA, NEPA, or any applicable plan, policy or program, because of the uniqueness and unprecedented nature of the project, the BLM voluntarily offered in the Dear Reader letter that accompanied the PA/FEIS to accept public comment on the PA/FEIS for 30 days after the Environmental Protection Agency published the Notice of Availability of the PA/FEIS in the Federal Register, and to respond to all substantive comments in the Record of Decision.

The additional comment period for the BSPP began on August 20, 2010, and closed on September 20, 2010. As summarized in Section A1.1, 16 comment letters were received within the 30-day comment period. Responses are provided on an issue-by-issue basis in Section A1.2. Copies of all comment letters are on file at the United States Bureau of Land Management Palm Springs South Coast Field Office.

A1.1 Comments Received on the Blythe Solar Power Project PA/FEIS

Table A1-1, *Comments on the Blythe Solar Power Project PA/FEIS*, summarizes the commenters, their affiliations, and the dates comments were received. Communications are presented in date order except that, where multiple communications were received from the same person or entity, comments are grouped together as of the date of the first communication.

**TABLE A1-1
COMMENTS ON THE BLYTHE SOLAR POWER PROJECT PA/FEIS**

Comment Letter	Commenter	Affiliation	Date Received
1	Sally Peterson	Individual	September 2, 2010
2	Sally Peterson	Individual	September 3, 2010
3	Jason Neuman, Captain	Riverside County Fire Department	September 4, 2010
4	Matthew J. Sanders	Applicant	September 10, 2010
5	Matthew J. Sanders	Applicant	September 20, 2010
6	Johanna H. Wald et al.	Defenders of Wildlife, Natural Resources Defense Council, Sierra Club, The Wilderness Society	September 10, 2010
7	Brendan Hughes	Individual	September 13, 2010
8	Patricia Pinon and Alfredo A. Figueroa	La Cuna de Aztlan Sacred Sites Protection Circle	September 14, 2010
9	Alfredo A. Figueroa	La Cuna de Aztlan Sacred Sites Protection Circle	September 20, 2010
10	Dave Singleton	Native American Heritage Commission	September 15, 2010
11	Kim Bauer	Individual	September 16, 2010
12	Ileen Anderson and Lisa T. Belenky	Center for Biological Diversity	September 17, 2010
13	Kevin Emmerich and Laura Cunningham	Basin and Range Watch	September 17, 2010
14	John Shamma	The Metropolitan Water District of Southern California	September 19, 2010
15	Kathleen M. Goforth	United States Environmental Protection Agency, Region IX	September 20, 2010
16	Robert Lundahl	Individual	September 20, 2010

The BLM is responding in this Appendix 1 to all substantive written comments submitted on the PA/FEIS. Substantive comments do one or more of the following: (i) Question, with reasonable basis, the accuracy of information in the PA/EIS; (ii) Question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the PA/FEIS; (iii) Present new information relevant to the analysis; (iv) Present reasonable alternatives other than those analyzed in the PA/FEIS; and/or (v) Cause changes or revisions in one or more of the alternatives. Comments that do not do one or more of these things do not require a response under NEPA (BLM NEPA Handbook § 6.9.2.1). Nonetheless, the BLM wishes to acknowledge all of the input received on the proposed action, including comments in favor of or against the proposed action or alternatives that do not provide reasoning that meet the criteria listed above; comments that merely agree or disagree with BLM policy or resource decisions without justification or supporting data that meet the criteria listed above; comments that do not pertain to the project area or the project; and comments that take the form of vague, open-ended questions. With respect to input like this, the BLM's common response hereby is provided as "noted."

The remaining comments received on the PA/FEIS relate to fire impacts and response, biological resources, cultural resources, and water resources. Responses to these comments are provided in Section A1.2, *Issue-specific Comments and Responses*.

To the extent that comments are addressed as part of the protest process, no separate response is provided in this Appendix 1; readers instead are referred to the *Director's Protest Resolution Report*. Similarly, to the extent that comments received in connection with the PA/FEIS (including comments by some of the individuals, agencies and organizations identified in Table A1-1) were vetted thoroughly in the PA/FEIS Section 5.5, *Public Comment Process*, the responses are not separately addressed here. See, e.g., PA/FEIS Section 5.5.4.5 concerning purpose and need, PA/FEIS Section 5.5.4.6 concerning the range of alternatives, PA/FEIS Section 5.5.4.3 concerning consistency with FLPMA and NEPA.

A1.2 Issue-specific Comments and Responses

A1.2.1 Fire Impacts and Response

Multiple letters (3, 4, 12, and 13) included comments on fire-related issues. These comments are summarized as follows:

- Solar operations could increase the potential for industrial fires that could spread onto public lands,
- Cumulatively, multiple operations could create additional burdens on local fire fighting organizations, and
- Solar operations could create worker safety issues.

Existing conditions related to worker safety and fire protection and wildland fire are described as part of the affected environment in PA/FEIS Section 3.12, *Public Health and Safety*, and Section 3.22, *Wildland Fire Ecology*. Potential direct, indirect and cumulative impacts on these resource or program areas are analyzed in PA/FEIS Section 4.11, *Impacts on Public Health and Safety*, and Section 4.20, *Impacts on Wildland Fire Ecology*.

Specifically, one comment identified “HTF fires from leaks” as “one of the primary concerns of having the facility so close to a public highway” and recommended development of a plan to reduce related risks. Based on existing information provided by the Applicant, and other information in the record, the BLM has concluded that no such plan is required; however, the Applicant has completed a mutual aid agreement with Riverside County designed to increase county capability to provide appropriate public safety response should an accident occur.

Regarding the cumulative risk of increased demand on emergency response services at the facilities themselves, the FEIS does in fact recognize that cumulative impacts could occur despite the many safeguards implemented to both prevent and control fires, hazardous materials releases, and injuries/accidents, because of the great distances involved in response and expansive sites. Although the chances of two or more solar power plants requiring emergency response simultaneously may be low, a response to one distant site could impede or preclude a simultaneous response to another solar plant,

residential or commercial location, or other location in demand. However, while cumulative impacts theoretically are possible, they are not likely given the 14-stations located within the RCFD's service area and mutual aid agreements with the County of Riverside Fire Department. Emergency response capabilities would be adequate.

Another commenter states that the risk of fire is high given the past history of another similar facility. While previous fires have occurred at other solar thermal facilities, the risk of a fire at the BSPP will be significantly lower, for at least three reasons.

First, Solar Millennium's plant design will include design features that reduce the risk of HTF-related fires. Such features include: (1) larger solar collectors than previous solar thermal facilities, which have fewer ball joints and therefore fewer points at which HTF could leak, and (2) a sufficient number of isolation valves that can be manually, remotely, or automatically activated. The valves would be placed such that a maximum of 1,250 gallons of HTF would leak if all the fluid in the isolated loop should leak out. Should this leak catch fire, it would take only about 15 minutes for the HTF to burn off completely. This second feature is consistent with CEC COC HAZ-4.

Second, the fire that is most frequently cited with respect to fire hazards posed by solar thermal plants is the January 1990 incident at the 80 MW SEGS VIII facility in Harper Lake, California. This incident involved a significant fire in the plant's power block area caused by an explosion of HTF in one of the storage tanks. However, the SEGS VIII facility used HTF storage tanks that were blanketed with natural gas and were not installed or managed properly by the plant operator at the time. Since this 1990 incident, solar thermal plants have switched all components of the HTF system to use nitrogen blankets rather than natural gas blankets. Nitrogen blankets are much safer and more reliable than natural gas blankets, and therefore make the risk of a fire like the 1990 incident at Harper Lake much more remote.

Third, two fire-fighting foam trucks (for suppressing HTF fires) will be onsite and centrally located near the assembly hall. Operations personnel will be trained and qualified in fire-fighting methods and will be the first responders. In addition, when a leak is detected, operations personnel will defocus the mirrors, which will stem or stop the flow of HTF in all but the most severe leak events (i.e., rupture of a collection tube). But, even if the entire 1,250 gallons of HTF in a given loop were to drain and be ignited, it would take about 15 minutes for the fluid to completely burn.

Several comments expressed concerns regarding worker safety: The PA/FEIS at Section 3.12, *Public Health and Safety*, and Section 4.11, *Impacts on Public Health and Safety*, address in detail both specific and incremental worker safety-related impacts. The PA/FEIS does in fact acknowledge the operation of the BSPP would result in a risk level that would remain below thresholds of concern and, therefore, would not cause or contribute to any cumulative effect on worker safety. Regardless of the level of solar development or acreage developed under either of the action alternatives, the utility-scale solar energy development that would result would be subject to the same worker safety requirements as the proposed action and, therefore, also would not result in a risk level that could cause or contribute to any cumulative effect on such safety. Extensive safety planning and training are also required as a result of CEC's COCs.

Cumulative impacts could occur despite the many safeguards implemented to both prevent and control fires, hazardous materials releases, and injuries/accidents, because of the great distances

involved in response and expansive sites. Although the chances of two or more solar power plants requiring emergency response simultaneously may be low, a response to one distant site could impede or preclude a simultaneous response to another solar plant, residential or commercial location, or other location in demand. However, while cumulative impacts theoretically are possible, they are not likely given the 14 stations located within the RCFD's service area and mutual aid agreements. Emergency response capabilities would continue to be adequate and have received the concurrence of Riverside County emergency responders.

Finally, a commenter states, "the FEIS appears be attempting to separate the issue of fire on other BLM lands from fires occurring on site even if those fires originate from the project site." This is incorrect. The BLM acknowledges that any fire resulting from the BSPP would be managed as appropriate under the circumstances, and could require or involve emergency response from BLM personnel, Riverside County Fire Department personnel, or others in accordance with existing mutual aid agreements. The BLM agrees that responsibility for fire management depends on many factors.

A1.2.2 Biological Resources

Multiple letters included comments about biological resources, including bighorn sheep (see, e.g., Letters 6 and 12) and desert tortoise (see, e.g., Letters 6, 7 and 12).

Bighorn Sheep

Several comments were received that expressed concerns related to the loss of big horn sheep habitat as well as connectivity between habitats. Other comments questioned the mitigation that was proposed (i.e., guzzler development) and opposed its development.

Information about impacts on bighorn sheep is contained in the response to comments section of the PA/FEIS (Section 5.5.4.8, *Biological Resources*) as well as in PA/FEIS Section 3.23, *Affected Environment [Wildlife Resources]*, Section 4.23, *Environmental Consequences [Wildlife Resources]*, and Appendix H, *Biological Cumulative Impact Analysis*. Specific comments/concerns stated that habitat connectivity impacts to bighorn sheep are not adequately addressed. BLM disagrees with this assertion. The FEIS does indeed recognize a variety of impacts to desert bighorn in the FEIS at 4.21.2, including that the proposed BSPP would not present a complete barrier to movement between mountain ranges as they still could disperse around the site to the west, north, and south. There would be sufficient open space in the valley floor for wildlife movement to the north of the project area and a corridor would be maintained at the base of the McCoy Mountains to the west of the site. The areas to the west and north of the site, which abut mountain ranges, would be avoided by the BSPP and would have a higher probability of being utilized based on higher quality forage. Cumulative impacts of other projects could eventually make movements much more difficult. Corridors described in the NECO (BLM CDD 2002) identify potential for bighorn sheep movement from the McCoy Mountains northeast to the Little Maria Mountains and west to the Palen Mountains. Further, the BSPP site, due to the width of the valley in which the solar facility would be located, has limited value as a movement corridor.

Some commenters stated that a guzzler, as would be required by BLM-BIO-21, would be insufficient mitigation for the loss of big horn sheep habitat. As provided for in Mitigation for Bighorn Sheep at page 304 of the PA/FEIS, BIO-21, the Applicant was provided two options for

the mitigation of impacts to Bighorn sheep. Option 1 was the creation of a water source and Option 2 was the acquisition of compensatory habitat. The proponent, through negotiations with NGOs, has completed a Settlement Agreement that incorporates Option 2. Specifically, the proponent has agreed to acquire 922 acres of suitable spring foraging habitat (desert dry wash woodland and vegetated swales with intermixed Sonoran creosote bush scrub habitat) to offset the loss of such for the Southern Mojave metapopulation of Nelson's bighorn sheep. Priority acquisition areas would be in eastern Riverside County roughly bounded by I-10, Highway 62, and Highway 177. Given the above, adequate replacement values for bighorn sheep spring forage areas have been obtained.

Desert Tortoise

Numerous comments related concerns regarding direct, indirect and cumulative impacts to Desert tortoise. Specifically, several comments expressed concerns that the PA/FEIS failed to address impacts to critical habitat to Desert tortoise. The PA/FEIS did in fact err in stating that there would be impacts to critical habitat for Desert tortoise. There are no project impacts within Desert tortoise **designated critical** habitat identified for this project. This also is provided for in the errata in order to correct this misstatement.

Another commenter states that PA/FEIS mitigation ratio of 1:1 is insufficient to mitigate for Desert tortoise outside of critical habitat and alleges that the PA/FEIS does not provide for sufficient monitoring and reporting requirements but offers no rationale as to why. Compensatory mitigation ratios are specifically provided for in the CDD and NECO land use plans and were vetted through a public involvement process. These ratios are also approved by the USFWS and the California Department of Fish and Game. Additionally, BLM disagrees that monitoring and reporting programs for this project are insufficient. An extensive Environmental and Construction Compliance Monitoring Program has developed for this project and is located in Appendix 4.

Information about impacts on Desert tortoise is contained in the response to comments section of the PA/FEIS (Section 5.5.4.8, *Biological Resources*) as well as in PA/FEIS Section 3.23, *Affected Environment, Wildlife Resources*, Section 4.23, *Environmental Consequences, Wildlife Resources*, and Appendix H, *Biological Cumulative Impact Analysis*. Mitigation measures relating to Desert tortoise are discussed in Section 2 of this ROD, *Mitigation and Monitoring*; the Mitigation, Monitoring and Enforcement Plan is set forth in Appendix 4 of the ROD. Furthermore, consistent with Section 7 of the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.), the BLM prepared a Biological Assessment for the USFWS for potential effects to Desert tortoise. The USFWS issued a Biological Opinion for the BSPP, which is provided in full in Appendix 2 of this ROD. Failure to comply with the requirements of the Biological Opinion may be cause for suspension or termination of the right-of-way authorization (see, ROD Section 1.4).

A1.2.3 Cultural Resources and Tribal Consultation

Multiple letters (8, 9, 10, 13, and 16) included comments concerning cultural resources and tribal consultation. These comments are summarized as follows:

- Because the project site and vicinity are culturally sensitive, special care is recommended, including the use of Native American Monitors, consultation with specified Native American contacts, provision for the evaluation of accidentally discovered archeological resources or native American human remains and consideration of avoidance upon discovery of significant cultural resources;
- The rights of indigenous peoples would be affected by the project as a result of anticipated impacts of the project on geoglyphs and other sites considered to be sacred;
- Additional tribal representatives, including in Mexico and Arizona, should have been consulted and oral histories should have been accounted for, and input that was received should have been taken into account more fully;
- The additional 30-day comment period should be extended not only to allow additional consultation concerning the sacredness of the proposed solar sites, but also for the conclusion of the National Historic Preservation Act Section 106 process;
- World War II military training features and the integrity of the Halchidhoma Trail, if it runs through the Palo Verde Valley, deserve protection; and
- Brown Act violations have occurred in the context of agency meetings about cultural issues.

Cultural resources were addressed in PA/FEIS Sections 3.4, *Cultural Resources*, 4.4, *Impacts on Cultural Resources*, and 5.5, *Public Comment Process*. See also, Appendix 3 to this ROD, *Programmatic Agreement*.

Section 106 of the National Historic Preservation Act (NHPA) requires Federal agencies, including the BLM, to take into account the effects of their undertakings on historic properties and afford the Council a reasonable opportunity to comment on such undertakings (36 CFR 800.1). The goal is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties (Id).

Federal agencies have responsibilities under a number of laws that may influence the way they carry out their NHPA Section 106 consultation duties. For example, the BLM has specific responsibilities and authorities to consider, plan for, protect, and enhance historic and cultural properties that may be affected by its actions, including under the NHPA, NEPA, the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, the Historic Sites Act of 1935, the Antiquities Act, the American Indian Religious Freedom Act, the Religious Freedom Restoration Act, Executive Order 13007, and related authorities. In carrying out its responsibilities, the BLM has developed policies and procedures through its directives system (such as BLM Manual Sections 8100-8160) to help guide the BLM's planning and decision making as it affects these properties, and has assembled a cadre of cultural heritage specialists to advise the BLM's managers and to implement cultural

heritage policies consistent with these statutory authorities. The BLM fulfilled its responsibilities and duties under these myriad laws and policies in the context of its NHPA Section 106 process for this project.

Section 800.3(b) of the regulations implementing the NHPA encourages agencies to coordinate their Section 106 responsibilities with NEPA reviews, as 40 CFR 1502.25(a) similarly provides in the context of NEPA. However, compliance with one statute and its implementing regulations does not substitute for compliance with the other without an explicit agreement, such as the execution of a programmatic agreement. Although the regulations do allow Federal agencies to comply with Section 106 through the use of the NEPA process, the BLM has not elected to do so for the BSPP. Instead, as explained in PA/FEIS Section 5.2.2, *Section 106 Compliance*, adverse effects that the BSPP could have on cultural resources will be resolved through compliance with the terms of a programmatic agreement.

As defined in the regulations, “consultation means the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process” (36 CFR 800.16(f)). Consultation in the context of a programmatic agreement involves, as appropriate, State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Officers (THPOs), the National Conference of State Historic Preservation Officers (NCSHPOs), Indian tribes and Native Hawaiian organizations, other Federal agencies, and members of the public (36CFR 800.14). “[A]ppropriate government-to-government consultation with affected Indian tribes” is required when an undertaking could affect historic properties of religious and cultural significance to an Indian tribe (36CFR 800.14).

Pursuant to the special relationship between the Federal government and Indian tribes, the BLM is responsible for government-to-government consultation with federally recognized Indian Tribes. For the BSPP, the BLM formally notified and invited Federally recognized tribes including the Morongo Band of Mission Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the San Manuel Band of Mission Indians, the Torres-Martinez Desert Cahuilla Indians, the Fort Mojave Indian Tribe, the Twenty-Nine Palms Band of Mission Indians, the Agua Caliente Band of Cahuilla Indians, the Augustine Band of Mission Indians, the Cabazon Band of Mission Indians, the Chemehuevi Indian Tribe, and the Colorado River Indian Tribes (Tribes) to consult on the project and to participate in the Programmatic Agreement as a Concurring Party. Documentation of the BLM’s efforts to consult with these tribes is summarized in Appendix I of the Programmatic Agreement, which is set forth in full in Appendix 3, *Programmatic Agreement*, of this ROD.

As indicated in the Programmatic Agreement, the BLM will continue to consult with the Tribes throughout the implementation of the Programmatic Agreement regarding the adverse effects to historic properties to which they attach religious and cultural significance. BLM will carry out its responsibilities to consult with Tribes that request such consultation with the further understanding that, notwithstanding any decision by these Tribes to decline concurrence, BLM shall continue to consult with these Tribes throughout the implementation of this Agreement.

Compliance with the procedures established by the approved Programmatic Agreement satisfies the BLM's NHPA Section 106 responsibilities (36CFR 800.14), and the terms and conditions contained in the Programmatic Agreement supersede the mitigation measures identified in the PA/FEIS as BLM-CUL-1 through and including BLM-CUL-9.

Because the NHPA, and not NEPA, governs the Section 106 consultation process for the BSPP, the request to extend the comment period for the PA/FEIS (see Letter 8) is denied. Furthermore, because it is the NHPA and not State law authorities, including the California Environmental Quality Act (CEQA, Cal. Pub. Res. Code § 21000 et seq.) and the Ralph M. Brown Act (Cal. Gov't Code § 54950 et seq.), that governs public participation opportunities during the NHPA Section 106 consultation process, alleged violations of the Brown Act are inapposite to the BLM's NHPA Section 106 process. Accordingly, related allegations about the adequacy of the PA/FEIS are misplaced.

A1.2.4 Water Resources: Surface Water, Groundwater and Water Rights

Multiple letters include comments about water resources, including surface water and groundwater (see, e.g., Letters 4, 12, 14, and 15).

Surface Water: One comment suggests that an adaptive management strategy would be appropriate to minimize the possibility of mitigation failure in the context of drainage planning and potential impacts to downstream habitat (Letter 15). The BLM will be working with the Applicant to reduce project-related impacts on surface waters. Implementation of the recommended mitigation measures, monitoring and compliance strategies will be specifically implemented to ensure that such degradation will not occur. This also will include adaptive management. BLM is committed to ensuring that all downstream impacts are mitigated to the extent practical. In addition, Mitigation Measure Soil&Water-11 specifically requires design features to allow down stream flow in a manner that will mimic existing flows, which will be monitored to ensure that significant changes in erosion, sedimentation or changes in channelization will not occur.

Groundwater: One comment stated that numerous references to mitigation / conditions of approval were confusing. BLM has addressed this to extent possible within the Errata.

Another commenter states that the proponent must apply for and receive an allocation of water from the Colorado River and raises questions the regarding the connectivity of the Palo Verde Mesa Groundwater Basin (PVMGB) to the Colorado River.

Ground water resources are discussed in PA/FEIS Section 3.20, *Water Resources*, and related impacts are analyzed in PA/FEIS Section 4.19, *Impacts on Water Resources*. See, e.g., PA/FEIS p. 4.19-1 ("Th[e] impact to the basin groundwater storage is minor. However, the BSPP's pumping would have an effect on the Colorado River by inducing subsurface flow from the river into the PVMGB."). Pursuant to comments from the applicant and other commentors regarding Colorado River groundwater issues, BLM believes the information received does not contradict

BLM's assessment that waters of the Colorado River are connected to the PVMGB. There are, however, some viable issues pertaining to how Colorado River water may migrate towards the PVMGB based on pumping from this project. Additionally, the only regulatory framework which may address subsurface allocation of Colorado River water based on the "accounting surface" methodology, and a full regulatory process to implement such methodology, has not been completed. BLM has reviewed the regulatory framework regarding the Colorado River and draft rule making that could eventually establish an accounting surface method for the River. It has been determined that no such finalized rule making exists at this time and such an allocation is currently not necessary. Should such rulemaking be finalized in the future, BLM will work with the proponent to ensure that an appropriate allocation is obtained if necessary. Furthermore, BLM will continue to monitor the groundwater in the area, and along with the Energy Commission, monitoring of the basin will be required in accordance with the mitigation measures included in Appendix 4.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011



In Reply Refer To:
FWS-ERIV-09B0186-10F0880

OCT 08 2010

MEMORANDUM

To: Field Manager, Bureau of Land Management, Palm Springs South Coast Field Office,
Palm Springs, California

From: Field Supervisor, Carlsbad Fish and Wildlife Office
Carlsbad, California

Subject: Section 7 Biological Opinion on the Blythe Solar Power Plant, Riverside County,
California

This memorandum transmits the U.S. Fish and Wildlife Service's (Service) biological opinion on the construction, operation, and maintenance of the proposed Blythe Solar Power Plant project (project or BSPP), located in Riverside County, California, and its effects on the threatened desert tortoise (*Gopherus agassizii*, "tortoise") in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*). Your request for formal consultation, dated July 16, 2010, was received on July 27, 2010. Because the proposed project is not in designated critical habitat for the tortoise, critical habitat will not be adversely affected.

This biological opinion is based on information provided in the following documents and communications: (1) the Bureau of Land Management/California Energy Commission's (BLM/CEC) joint *Staff Assessment and Draft Environmental Impact Statement, Blythe Solar Power Project* (BLM and CEC 2010), (2) the BLM's *Plan Amendment/Final Environmental Impact Statement for the Blythe Solar Power Project* (BLM 2010), (3) the CEC's *Blythe Solar Power Project Revised Staff Assessment* (CEC 2010a); (4) the *Blythe Solar Power Project Revised Draft Biological Assessment* (AECOM 2010a); (5) the CEC's Blythe Solar Power Project Commission Decision (CEC 2010b), (6) pre-project desert tortoise survey reports (AECOM 2010b, 2010c), (7) final and draft revised desert tortoise recovery plans (Service 1994a, 2008), (8) supplemental materials provided during the consultation process, (9) electronic transmissions from BLM and Palo Verde Solar (applicant, formerly Solar Millennium), and (10) pertinent literature contained in our files. The project file for this consultation is located at the Carlsbad Fish and Wildlife Office (CFWO).

CONSULTATION HISTORY

The Service received an updated Plan of Development for the project from the applicant on December 24, 2008, and began early consultation on this project by participating in a conference call with the applicant, BLM, CEC, and California Department of Fish and Game (CDFG) in



February 2009. Between February 2009 and August 2010, the Service, BLM, CEC, CDFG, and/or the applicant participated in numerous meetings and conference calls regarding this project, including participating in CEC public workshops and the CEC evidentiary hearing on July 15, 2010. The Service coordinated early with BLM, CEC, and CDFG on the development of measures in the CEC/BLM/draft Environmental Impact Statement (EIS) to avoid, minimize, and offset impacts to the desert tortoise, and we conducted several visits to the project site with these agencies.

In preparing this biological opinion, we provided a draft project description to the BLM and applicant on August 19, 2010, and September 28, 2010, and a draft biological opinion was provided to the BLM on September 29, 2010. All comments received from the BLM and applicant were incorporated into this biological opinion, as appropriate.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is the BLM's issuance of a right-of-way (ROW) grant that would authorize construction, operation, maintenance, and decommission of a commercial solar power-generating facility on approximately 3,804 hectares (ha) [9,400 acres (ac)] of BLM-managed lands. The proposed project is located in Riverside County, California, approximately 13 kilometers (km) [8 miles (mi)] northwest of Blythe and approximately 3 km (2 mi) north of the Interstate 10 (I-10) corridor (Figure 1). Project components generally include construction, operation, and maintenance of the solar power plant site and support facilities, an access road/utility corridor, and a gen-tie transmission line. The proposed project will disturb an estimated total of 2,843 ha (7,025 ac) of which approximately 2,816 ha (6,958 ac) is desert tortoise habitat (Table 1). Any non-emergency expansion of construction, operation, or maintenance activities into areas outside of the areas considered in this biological opinion will require BLM approval and tortoise clearance surveys, and may require reinitiation of consultation with the Service.

Construction

The project includes construction of a 1,000-megawatt (MW) commercial solar thermal power-generating facility that will use solar parabolic trough technology to generate electricity. Arrays of parabolic mirrors will collect heat from the sun to then warm the heat transfer fluid (HTF) in the solar field piping. Through a series of heat exchangers, heat will be released to generate high pressure steam that will then be fed to a steam turbine generator to generate electricity. See CEC (2010a) and AECOM (2010a) for a detailed project description.

Solar Power Plant and Support Facilities

The solar power plant site (plant site) will consist of four independent 250-MW power units (Units 1 to 4; Figure 2). Each unit will have its own solar field, composed of piping loops arranged in parallel groups, and its own power block, centrally located within the solar field.

Each unit will also have its own HTF pumping and freeze-protection system, solar steam generator, steam turbine generator, an air-cooled condenser for cooling, transmission lines and related electrical system, support equipment, including water treatment system, emergency generators, and two 2-ha (4-ac) evaporation ponds. The plant site will also include office and warehouse/maintenance buildings, concrete batch plant, enclosed water storage tanks, fuel depot, assembly hall, parking areas, and equipment/materials laydown areas. Only a portion of the plant site will be paved, including the service roads to the power units and 2 ha (6 ac) of each of the 7-ha (18-ac) power units. The remainder will remain unpaved and without a gravel surface to prevent rock damage to mirrors from vehicle traffic.

Up to 10 groundwater wells will be drilled within the plant site to supply water for facility construction, operation, and maintenance. Total water consumption for the facility is estimated at approximately 74 ha-m (600 ac-feet) per year. Because the BSPP project will use dry cooling, the primary water uses will be solar mirror washing, feed water makeup, fire water supply, onsite domestic use, and cooling water for auxiliary equipment heat rejection (auxiliary cooling tower and auxiliary boiler). Sanitary wastewater will be collected for treatment in septic tanks and disposed of via leach fields.

The entire plant site, including support facilities, will be secured with a combination of chain link and wind fencing. Chain-link metal fabric security fencing will consist of 2-meter (m) [8-foot (ft)] tall fencing with 0.3 m (1 ft) barbed wire or razor wire on top. Desert tortoise exclusion fencing will also be installed along the outside of the entire perimeter security fence. Controlled access gates will be located at the site entrance. Wind fencing, consisting of 9-m (30-ft) tall A-frames and wire mesh, will be installed along the east and/or west sides of each solar field.

Construction power will be provided by a temporary power line constructed from the Southern California Edison's (SCE) 12.47-kilovolt (kV) distribution line one mile east of the plant site, near Blythe, to the plant site (Figure 2). The power line will either be a buried or overhead line (on monopoles) and will require construction of a new dirt access road along the power line alignment.

The development of the plant site will also include channelizing and rerouting storm flows along the project perimeter into five 46-m (150-ft) wide channels along the north, southeast, south, and west boundaries, and through the center of the site (Figure 2). Flows will be returned to their sheet flow regime east and southeast of the project footprint. These rerouted channels will intercept flows prior to their entry to the site and convey them in realigned channels to approximately the same locations where they exit the site under existing conditions. Outlets for each channel will end in fan diffusers that will return the water to existing down-gradient locations over a wider area by converting concentrated flows to overland flow. Fan diffusers use soil cement weirs to spread the drainage water over an ever-increasing flow surface as water moves downstream from the throat of the diffuser to the face of the diffuser. The intent of the diffusers is to modify the height of water as it moves downstream, so that when the drainage water leaves the diffuser it is closely representative of the predevelopment condition. Scour protection will consist of soil cement made with native material and native soils to the extent

practicable, and will be placed on the channel sides and bottoms in stress areas such as curves and slope transitions. No scour protection is proposed for the channel bottom in the straight sections of the channels. This is to allow the low flows to meander across the bottom, replicating as nearly as possible the flow regimes under current conditions. Channels would also collect onsite storm water flows and direct them offsite to the east and southeast. All of the rerouted drainage channels, except the central channels, will be located along the outer side of the perimeter security fence. Because of the installation of the perimeter security fence, the inlets and outlets of the central drainage channels traversing the plant site will not be fenced. Instead, a tortoise-proof fence, or similar structure sufficient to exclude desert tortoises, will be installed across the central channels at the location of the security fence to prevent tortoises from entering the plant site.

Access Roads/Utility Corridor

Access to the plant site will be on a new, 8-km (5-mi) paved road heading north from the existing Black Rock Road (Figure 2). A portion of Black Rock Road will be paved from Airport/Mesa Drive exit (off I-10) to the new turn-off for the plant access road. The new access road will also be used as a utility corridor that will include buried lines (telecommunications and natural gas) and a portion of the gen-tie transmission line. The new gas pipeline will connect to an existing Southern California Gas Company main pipeline south of I-10. Voice and data communications would be provided by a new twisted pair telecommunications cable. The routing for this cable will end at the existing infrastructure near Mesa Drive. In addition, the project has two other telecommunication lines required by the California Independent System Operators (CAISO) to provide operational data to the Colorado River Substation. The primary transmission-related telecommunication line will be strung overhead along the same poles as the 230-kV gen tie line to the Colorado River Substation. A redundant transmission-related telecommunications line will be a buried cable similar to the telecommunications cable for the project. Routing for both buried telecommunications cables will be adjacent to the site access road for the portion north of I-10. The redundant telecommunications line continues south of I-10 to the Colorado River Substation following the route of the gen-tie line, while the project telecommunications cable follows Black Rock Road to Mesa Drive. Laydown and staging of equipment and materials needed for construction of the access road/utility corridor will be located within the plant site or within the impact area associated with the access road/utility corridor.

Gen-tie Transmission Line

A new approximately 17-km (11-mi) 230-kV double-circuit, monopole gen-tie transmission line will be also be constructed as part of the project (Figure 2). To address Riverside County Airport Land Use Commission concerns, a portion of the gen-tie line will be outside of but parallel to the access road/utility corridor. A 396-m (1,300-ft) section of line perpendicular to Blythe Airport Runway 8-26 (oriented east-west) will be supported by 21-m (70-ft) H-Frame single circuit structures. A new unpaved access road will be constructed for the portion of the line that lies west of the access road/utility corridor. Laydown and staging of equipment and materials needed

for construction of the transmission line will be located within the plant site or within the impact area associated with the gen-tie line or access road/utility corridor. Pulling and splicing sites for the transmission line will also serve as laydown areas for small amounts of material (e.g., wire).

The transmission line will extend south from the plant site primarily along the access road/utility corridor to a point south of I-10, and then turn west to connect to SCE's planned Colorado River Switchyard (CRS) substation. BLM and SCE are currently undergoing section 7 consultation with the Service on the CRS substation as part of the Devers to Palo Verde No. 2 Transmission Line (DPV2) project. Therefore, the CRS substation is not part of the project description for the BSPP project. The substation is planned in the area immediately west of the end of the gen-tie transmission line (Figure 2).

Project construction is scheduled to begin in late 2010 on the first unit and continue for a total of 69 months. Project construction will require an average of about 600 employees, peaking at approximately 1,000 workers in month 16 of construction. Commercial operation of the first completed Unit 1 is anticipated to begin in mid-2013, with subsequent units coming online in 6- to 12-month intervals.

Construction Phasing

Project construction will occur in 3 phases, Phases 1a, 1b, and 2 (Figure 2), generally following development of the solar units, and will impact approximately 311 ha (769 ac), 1,212 ha (2,995 ac), and 1,292 ha (3,193 ac), respectively (see BIO-28 in CEC 2010b). All 3 phases will include construction of linear and nonlinear facilities.

Phase 1a linear facilities will include improvements to Black Rock Road and construction of the new access road from Black Rock Road north to the shared facilities area, the buried telecommunications and natural gas lines within the utilities corridor from Black Rock Road to the shared facilities area, the temporary construction power line from offsite to the shared facilities area, a water well area, and a portion of the rerouted drainage channel in the northeast corner, but outside of, the plant site. Phase 1a nonlinear facilities will include construction of the shared facilities area (containing a concrete batch plant, fueling depot, assembly hall, offices/trailers, parking area, and materials/equipment laydown/storage areas) and a portion of the Unit 1 power block and solar field. Phase 1a will also include the installation of temporary and permanent tortoise exclusion fencing. Temporary tortoise exclusion fencing will be installed around portions of the nonlinear features that do not correspond to permanent security fencing and may also be installed around linear features where a monitor will not be present in the immediate vicinity of construction activities. A portion of the permanent security fencing may be installed where Phase 1a corresponds with the permanent plant site boundary, and would include construction of the associated permanent tortoise exclusion fencing.

Phase 1b linear facilities will include construction of the gen-tie transmission line from the shared facilities area to the future substation and portions of the rerouted drainage channels associated with Units 1 and 2. Phase 1b nonlinear facilities will include construction of the

remainder of the Unit 1 solar field, all of the Unit 2 power block and solar field, and the land treatment unit. Similar to Phase 1a, Phase 1b will also include the installation of a portion of the permanent security fencing and both temporary and permanent tortoise exclusion fencing.

Phase 2 linear facilities will include construction of the rerouted drainage channels associated with Units 3 and 4. Phase 2 nonlinear facilities will include construction of the Unit 3 and Unit 4 power blocks and solar fields, the remainder of the power plant support facilities, and the construction/laydown area. Similar to Phases 1a and 1b, Phase 2 will also include the installation of a portion of the permanent security fencing, and temporary and permanent tortoise exclusion fencing.

Desert tortoise clearance surveys associated with construction of linear facilities, temporary tortoise exclusion fencing, and the perimeter security fence during Phases 1a, 1b, and 2 may be conducted during any season. Temporary tortoise exclusion fencing will be installed around linear features, unless a biological monitor is present in the immediate vicinity of construction activities, or any subset of the plant site phasing that does not correspond to permanent perimeter fencing. Temporary tortoise exclusion fencing will be installed prior to clearance surveys around nonlinear features. Desert tortoise clearance surveys associated with construction of nonlinear facilities during Phase 1a also may be conducted during any season. However, tortoise clearance surveys associated with construction of nonlinear facilities during Phases 1b and 2 will only be conducted during the desert tortoise's most active season (April to May, September to October). Surveys outside of these periods require approval by CFWO. Clearance surveys will be conducted in accordance with the Service's *Desert Tortoise Field Manual* (Service 2009).

Phase 1a

Any tortoises found during clearance surveys of linear facilities outside of the plant site (i.e., along the access road/utility corridor or gen-tie transmission line) will be moved out of harm's way within 500 m (1,640 ft) of the disturbance area. Procedures for handling tortoises will be conducted in accordance with the Service's *Desert Tortoise Field Manual* (Service 2009).

Any desert tortoises found on the surface or in a burrow during clearance surveys of linear facilities on the plant site (i.e., access road, construction powerline, utilities corridor, and water well) will be moved out of harm's way within 500 m (1,640 ft) of the disturbance area and considered a translocatee¹. Any tortoises found during clearance surveys of nonlinear facilities on the plant site (i.e., shared facilities area, portion of unit 1) will be followed back to their burrow, contained within a 1 ha (2.5 ac) pen, monitored until the active season then considered a translocatee. Any tortoises found on the surface during clearance surveys of the perimeter security fence, rerouted drainage channels, and tortoise exclusion fencing associated with nonlinear facilities on the plant site, will be followed back to its burrow. If its burrow is on the

¹ "Translocatee" refers to tortoises that will be transmittered, given health assessments, and monitored in accordance with the Service's translocation guidance (Service 2010b) or in accordance with the final Relocation/Translocation Plan if approved by the Service at the time of Phase 1a construction activities.

plant site, then it will be contained within a 1 ha (2.5 ac) pen, monitored until the active season and considered a translocatee. If the burrow is off the plant site, the tortoise will be moved out of harm's way within 500 m (1,640 ft) of the disturbance area and considered a translocatee.

Phases 1b and 2

Any tortoises found during clearance surveys of linear facilities outside of the plant site (i.e., along the access road/utility corridor or gen-tie transmission line) will be moved out of harm's way within 500 m (1,640 ft) of the disturbance area in accordance with the Service's *Desert Tortoise Field Manual* (Service 2009) or more recent guidance. Any tortoises found during clearance surveys of nonlinear facilities on the plant site or found during clearance of the tortoise exclusion fencing, rerouted drainage channels, or perimeter security fencing will be handled and moved in accordance with the final Relocation/Translocation Plan.

Operations and Maintenance

Operation and maintenance (O&M) will occur within the plant site during the 30-year life of the project. While electrical power will be generated only during daylight hours, the plant site will be staffed 24 hours a day, 7 days per week by a total estimated workforce of 221 full time employees (when all four units are operating).

Within the fenced plant site, routine O&M will include such activities as maintenance and repair of the perimeter fence, access gates, solar array components, support facilities, and evaporation ponds, mirror washing, vehicle and equipment movement, and vegetation removal. Solar mirrors will be sprayed with treated water once or twice per week, determined by the reflectivity monitoring program. Mirror washing will use approximately 28 ha-m (230 ac-feet) per year of water. Washing will generally be done at night and will involve a water truck spraying treated (i.e., demineralized) water on the mirrors in a drive-by fashion. Because the mirrors will be angled down for washing, water will not accumulate on the mirrors; instead, it will fall from the mirrors to the ground. Due to the small volume, the applicant anticipates the water will soak into the soil with no appreciable runoff. Any remaining rinse water from the washing operation is expected to evaporate on the mirror surface.

Outside of the fenced plant site, O&M activities will be conducted within the access road/utility corridor, gen-tie transmission line ROW, rerouted drainage channels, and along the outer side of the perimeter security fence. Routine O&M activities associated with the gen-tie transmission line, access road, and utility corridor will include periodic cleaning of the line conductors and replacement and/or repair of equipment damaged by wind, dust, or accident, road grading and drainage structure repairs to maintain a drivable surface along the access roads, and repair of the perimeter security fence. Such activities are anticipated to occur throughout the year as needed. The newly constructed access road to the plant site and dirt roads will provide O&M access to the gen-tie transmission line ROW and utility corridor. A dirt road created during construction will provide O&M access to rerouted drainage channels and the outer side of the perimeter security fence.

O&M of the rerouted channels will occur to reduce the hydraulic roughness, improve flood conveyance capacity, and maintain adequate protection of the stream banks from erosion, and will include vegetation management to maintain cover at less than 38 centimeters (cm) [15 inches (in)] in height, periodic debris removal, and erosion repairs. Maintenance will occur predominantly by hand crews and pickup truck; however, it may be necessary to use heavy equipment (e.g., loader, excavator, and wheel dump trucks) to repair structural features and clean out debris following large storm events.

According to information provided by the applicant, routine O&M activities are expected to occur along existing access roads, access roads created for the project, and areas previously disturbed during construction-related activities. Therefore, we do not expect routine O&M activities will result in additional direct habitat disturbance above what will be disturbed during construction activities.

Decommissioning

The planned operational life of the proposed project is 30 years, but operation life of the facility may be longer or shorter depending on economic or other circumstances. If the facility were to become economically non-viable before 30 years of operation, permanent closure could occur sooner. In any case, BLM will require a Decommissioning Plan be prepared and put into effect when permanent closure occurs. The procedures provided in the Decommissioning Plan will be developed to ensure compliance with applicable laws and regulations, and to ensure public health and safety and protection of the environment. The Decommissioning Plan will be submitted to the BLM for review and approval prior to a planned closure. When the BLM begins to consider decommissioning, they will contact the Service to determine if additional consultation, pursuant to section 7(a)(2) of the Act, would be appropriate. Consequently, we will not analyze the potential effects of decommissioning on the desert tortoise in this biological opinion.

Conservation Measures

The proposed project includes conservation measures that will be implemented to avoid, minimize, and offset potential adverse effects to the tortoise. These measures were developed in coordination with the BLM, CEC, CDFG, and applicant, and correspond directly to the CEC's conditions of certification BIO-1 thru BIO-14, BIO-27, and BIO-28 described in the CEC's Final Decision on the proposed project (CEC 2010b). Therefore, we are incorporating by reference into this biological opinion, the CEC's conditions of certification BIO-1 thru BIO-14, BIO-27, and BIO-28 as described in the CEC's Final Decision, as the conservation measures that will be implemented by the applicant and BLM to avoid, minimize, and offset the impacts to the tortoise associated with the BSPP project. We have provided additional clarification of the requirements outlined in BIO-8, BIO-9, BIO-10, and BIO-13 below. The project description, including the CEC's conditions of certification BIO-1 thru BIO-14, BIO-27, and BIO-28, and the additional clarifications provided below, provide the basis of the effects analysis provided in this biological opinion. The CEC's Final Decision (CEC 2010b) and BLM's final EIS (BLM 2010) include additional measures to offset proposed project impacts on rare and sensitive species and natural

communities, which will be implemented to further reduce impacts to biological resources, including those associated with dust, light, and noise, resulting from the proposed project.

BIO-8: Impact Avoidance and Minimization Measures – This CEC condition of certification specifies the measures that will be implemented to manage the project site and related facilities in a manner to avoid or minimize impacts to biological resources, including desert tortoises. To clarify, these measures will also be implemented during all ground-disturbing construction and O&M activities.

BIO-9: Desert Tortoise Clearance Surveys and Fencing - This CEC condition of certification specifies the procedures, including seasonal restrictions, for conducting tortoise clearance surveys and handling and moving tortoises out of the disturbance area during construction activities. In addition, this condition of certification specifies that once the area is cleared of tortoises, temporary tortoise exclusion fencing will be installed along linear features unless a biological monitor is present during construction activities. To clarify, these procedures for conducting tortoise clearance surveys, handling and moving tortoises out of the disturbance area, and ensuring tortoises do not re-enter the disturbance area will also be implemented during O&M activities along the access road/utility corridor, gen-tie transmission line ROW, and rerouted drainage channels outside of the plant site, and along the outer side of the perimeter security fence.

BIO-10: Desert Tortoise Relocation/Translocation Plan - This CEC condition of certification specifies that the Desert Tortoise Relocation/Translocation Plan will be consistent with Service-approved guidelines, and that the final Plan will include all revisions deemed necessary by BLM, Service, CDFG, and CEC. To clarify, the final Desert Tortoise Relocation/Translocation Plan will incorporate the Service's desert tortoise translocation guidance (Service 2010b) and subsequent project-specific guidance, as appropriate for the BSPP project, and must be approved by the Service prior to the initiation of any ground-disturbing construction activities associated with Phases 1b or 2 or prior to translocation of any desert tortoises found in Phase 1a, whichever occurs first.

BIO-13: Raven Management Plan - As stated in this CEC condition of certification, the applicant will submit payment to the project sub-account of the Renewable Energy Action Team (REAT) account held by the National Fish and Wildlife Foundation (NFWF) to implement a regional management plan for common ravens for the reduction of predation by the common raven on the desert tortoise in the California desert. Payment of this one-time fee is intended to mitigate for the proposed project's portion of the cumulative and indirect effects of contributing to the population increase of common ravens in the desert region. The account was established by the REAT agencies (BLM, CDFG, Service, and CEC) in coordination with NFWF to manage the funds that will be used to implement the regional management plan.

Based on the cost allocation methodology described in *Renewable Energy Development And Common Raven Predation on the Desert Tortoise –Summary* (May 2010) and *Cost Allocation Methodology for Implementation of the Regional Raven Management Plan* (July 9, 2010), the

applicant will contribute a one-time fee of \$105 per acre of disturbance to 2,816 ha (6,958 ac) of desert tortoise habitat that will be impacted by the proposed project. Accordingly, a fee of \$730,590 will be assessed to fund the project's portion of the regional management plan for the 30-year ROW grant by the BLM. Documentation for payment of this fee will be submitted to the Service no less than 10 days prior to the initiation of ground-disturbing construction activities.

Action Area

The implementing regulations to section 7(a)(2) of the Act describe the action area to be all areas affected directly or indirectly by the Federal action and not merely the immediate area affected by the proposed project (50 CFR §402.02). The action area is the area of potential direct or indirect effects of the proposed action and any interrelated or interdependent human activities; the direct and indirect effects of these activities include associated physical, chemical, and/or biological effects of considerable likelihood (Service and NMFS 1998). Indirect effects are those that are caused by the proposed action and are later in time but are still reasonably certain to occur (Service and NMFS 1986). Analyses of the environmental baseline, effects of the action on the species and designated critical habitat, cumulative effects, and the impacts of the incidental taking, are based upon the action area as determined by the Service (Service and NMFS 1998).

The action area for the proposed project consists of the 2,816 ha (6,958 ac) of desert tortoise habitat that will be impacted in the project site/footprint [includes the plant site and associated linear facilities (i.e., access roads, utility corridor, gen-tie transmission line, and construction power line)]. Along linear facilities off the plant site, the action area also includes a distance of up to 500 m (1,640 ft) where any tortoises will be moved out of harm's way to avoid injury from construction or O&M-related activities. The action area also includes the applicant's proposed desert tortoise recipient (translocation) sites (McCoy Mountains and Upper McCoy Wash recipient sites) and all contiguous tortoise habitat within 12.6 km (7.8 mi) of the McCoy Mountains recipient site and the Upper McCoy Wash recipient site, as identified in the Relocation/Translocation Plan. By including habitat within 12.6 km (7.8 mi) of the recipient sites, we are including all areas that tortoises are likely to move to in the first year following translocation². The action area also includes the applicant's proposed control site.

Finally, the action area encompasses future conservation areas that will be acquired to offset the loss of desert tortoise habitat resulting from construction and O&M of the proposed project. The acquisition, management, and monitoring of these conservation areas are expected to have only beneficial effects to tortoises; however, the locations of these conservation areas are currently unknown. As discussed in the condition of certification BIO-12 of the CEC's Final Decision, lands selected for acquisition will be within the Colorado Desert Recovery Unit (Service (2008) and contribute to desert tortoise habitat linkages and population connectivity within and between desert tortoise critical habitat, known populations of tortoises, and/or other preserve lands.

² See "Effects of the Action" section for further discussion on movement distances of translocated tortoise.

Prior to the initiation of ground-disturbing construction activities, either conservation lands will be acquired directly by the applicant or the applicant will provide funding for the acquisition (see CEC condition of certification BIO-12).

The action area does not include the area where an artificial water source would be installed in the McCoy Mountains or nearby areas on BLM lands to compensate for impacts to desert bighorn sheep (*Ovis canadensis nelsoni*) (per BIO-21) because the exact location of this water source is currently unknown. Therefore, potential direct (e.g., habitat destruction) or indirect (e.g., increasing raven predation by providing a water source for ravens) impacts to tortoises resulting from construction and operation of this water source would be addressed in a separate consultation.

STATUS OF THE SPECIES/CRITICAL HABITAT

The following section summarizes information about the desert tortoise on the legal/listing status, distribution and population trends, current threats, and status of critical habitat as discussed in the Service's biological opinion on the California Desert Conservation Area Plan Amendment for the Coachella Valley (Service 2010a). Please refer to that document as well as the draft revised recovery plan (Service 2008) for additional detailed information about these topics and the species' description, life history, and habitat affinities.

Legal/Listing Status: The Mojave population of the desert tortoise was proposed for listing by the Service on October 13, 1989, and listed as a threatened species on April 2, 1990 (Service 1989, 1990). The tortoise is also listed as a threatened species under the California Endangered Species Act. The Service designated about 2.6 million ha (6.5 million ac) of critical habitat for the tortoise in portions of California, Nevada, Arizona, and Utah on February 8, 1994 (Service 1994b). The recovery plan was developed for this species in 1994 (Service 1994a). The draft revision to the recovery plan was developed in 2008 (Service 2008), but the plan has not yet been finalized.

Distribution and Population Trends: Typical desert tortoise habitat in the Mojave Desert is characterized as creosote bush scrub below 1,676 m (5,500 ft) in which precipitation ranges from 5 cm to 20 cm (2 in to 8 in), where a diversity of perennial plants is relatively high, and production of annual plants is high. The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran (Colorado) Desert in California.

The best available information indicates the Mojave population of desert tortoise is declining in abundance in most areas throughout its range. Line distance sampling is now being used as part of a long-term monitoring strategy to detect population trends. This program was put into place in 2001, but detecting population trends is expected to be a gradual process and surveys conducted over short periods of time (e.g., 2001 to 2007) would only reveal catastrophic declines or significant changes. These data do, however, provide some information on variability in

annual and regional densities between recovery units. In general, over the first 6 years of range-wide monitoring (2001-2005, 2007), tortoises were least abundant in the Northeast Mojave Desert Recovery Unit, the highest reported densities occurred in the Upper Virgin River Recovery Unit, and considerable decreases in density were reported in 2003 in the Eastern Colorado and Western Mojave recovery units (Service 2008). The proposed project occurs in the Eastern Colorado Desert Recovery Unit per the species recovery plan (Service 1994a), which was merged with the Northern Colorado Desert Recovery Unit in the draft revised recovery plan (Service 2008) and referred to simply as the Colorado Desert Recovery Unit.

Current Threats: The majority of threats to the tortoise and its habitat are associated with human land uses including urbanization, upper respiratory tract disease and possibly other diseases, predation by common ravens and domestic and feral dogs, unauthorized off-highway vehicles activity, authorized vehicular activity, illegal collecting, mortality on paved roads, vandalism, drought, livestock grazing, feral burros, nonnative plants, changes to natural fire regimes, and environmental contaminants.

Status of Critical Habitat: The Service designated about 2.6 million ha (6.5 million ac) of critical habitat for the tortoise in portions of California, Nevada, Arizona, and Utah. The primary constituent elements of desert tortoise critical habitat were identified as sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality.

The proposed project is more than 8 km (5 mi) northwest of the Chuckwalla critical habitat unit and is separated from this unit by the McCoy Mountains. Most critical habitat areas are relatively unaffected by human uses and continue to provide a habitat base to support viable populations into the future. However, threats from long-term climate trends, such as recurrent and prolonged drought, and ecological processes, such as invasive nonnative plant infestations and consequent wildfire risk, are widespread and have degraded and eliminated the primary constituent elements of desert tortoise critical habitat over large areas, which if continued, would threaten the viability of populations in affected areas, including habitat linkages between core populations.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the

impacts of State and private actions which are contemporaneous with the consultation in progress.

As discussed in the “Action Area” section above, the action area for this project includes: (1) the project area, defined as the 2,816 ha (6,958 ac) project footprint [includes the plant site and associated linear facilities (i.e., access roads, utility corridor, gen-tie transmission line, and construction power line)], and a distance of up to 500 m (1,640 ft) from linear facilities where any tortoises will be moved out of harm’s way, (2) the proposed desert tortoise recipient (translocation) sites, and all contiguous tortoise habitat within 12.6 km (7.8 mi) of the McCoy Mountains site and the Upper McCoy Wash site, (3) the proposed control site, and (4) future conservation areas. The environmental baseline of each of these components of the action area is described below.

Species Abundance in the Action Area

Project Area

The project area is in the Eastern Colorado Desert Recovery Unit per the species recovery plan (Service 1994a), which was merged with the Northern Colorado Desert Recovery Unit in the draft revised recovery plan (Service 2008) and referred to simply as the Colorado Desert Recovery Unit. Specifically, the project area is located entirely on BLM-managed lands in the McCoy Valley, between the McCoy Mountains to the west and McCoy Wash to the east. The project area is mostly flat, with elevations ranging from about 204 m (670 ft) at the southwestern limit of the project to about 128 m (420 ft) near the southeastern project boundary. Several deep drainages occur in the western portion of the project area adjacent to the McCoy Mountains.

The project area is primarily undeveloped but contains several BLM-designated routes of travel (unmaintained roads). The I-10 freeway crosses the southern portion of the project area, where the gen-tie transmission line and buried gas line are proposed south of I-10. During World War II, the McCoy Valley was part of the General George S. Patton Desert Training Center, officially the California-Arizona Maneuver Area, a simulated theater of operations heavily used by tanks and other military vehicles. The nearby Blythe Airport, then known as Bishop Army Field, was used as a training field by the 46th Bomb Group, and later by the 34th Bomb Group, for flying training missions in a variety of military aircraft.

Despite these past military uses, vegetation in the McCoy Valley and in the project area, has been recovering through natural recruitment and today appears relatively undisturbed. The project area is dominated by creosote bush scrub and seven other vegetation communities and land cover types, including desert dry wash woodland, unvegetated ephemeral dry wash, creosote bush/big galleta grass, stabilized and partially stabilized desert dunes, agriculture, developed, and disturbed habitat (see Table 2 in AECOM (2010a) for acreages of each vegetation/land cover type occurring in the action area). Two invasive nonnative plants, Russian thistle (*Salsola tragus*) and Saharan mustard (*Brassica tournefortii*), occur in disturbed areas

throughout the project area, especially near roads and fallow or active agricultural areas. Another nonnative plant, Mediterranean grass (*Schismus barbatus*), is prevalent throughout the creosote bush scrub.

California Natural Diversity Database (CNDDDB) records show desert tortoise occurrences surrounding (but not within) the project site (AECOM 2010a), the nearest being approximately 0.32 km (0.2 mi) from the project footprint (CDFG 2009 cited in AECOM 2010a). Surveys conducted along the eastern end of the proposed DPV2 transmission line project, including the CRS substation, in 2005, 2008, and 2010 (Alice Karl and Associates *et al.* 2005, BioResource Consultants 2008, AECOM 2010b), located tortoises and sign, with the closest live tortoise being observed approximately 21 km (13 mi) west of the BSPP site. Two live tortoises and sign were also observed in 2007 approximately 3 km (2 mi) southeast of the planned CRS substation (CFWO GIS database).

Initial surveys of the plant site and re-routed drainage channels, gen-tie transmission line, access roads/utility corridor, and temporary construction power line were conducted in spring and fall 2009 following the Service's pre-project survey protocol (Service 1992). Surveys (not protocol) were also conducted within a 2-km (1-mi) zone (survey zone) around the plant site. Following the identification of an alternative site configuration and various design refinements related to potential transmission line routes and substation location, protocol surveys (Service 1992) were conducted in spring 2010 in areas of the project footprint and proposed alternative site configuration that were not previously surveyed in 2009.

A total of six desert tortoises were observed during the 2009 and 2010 pre-project surveys, of which two were found in the project footprint [one in the southwest corner of the plant site and one 91 m (300 ft) from the utility corridor] and four were found in the survey zone west of the project footprint (AECOM 2010b, AECOM 2010c). Additionally, numerous observations of tortoise sign were recorded during these surveys, most of which were observed in the western portions of the project footprint and adjacent survey zone, and included 120 burrows [of which 15 were active (showing sign of recent use) and four were occupied], 172 pallets or shallow depressions under low shrubs (of which 12 were Class 1 or 2), 55 scat (of which 13 were Class 1 or 2), 42 carcasses, and 449 observations of bone fragments (AECOM 2010b, AECOM 2010c). The presence of five active burrows, nine fresh scat, two widely spaced cover sites with eggshell fragments (indicating the potential for hatchings, at least two female tortoises) found in the project footprint, and the presence of four tortoises in the survey zone, suggests that more tortoises than the two observed males likely occur in the project footprint.

To estimate the number of tortoises in the project footprint, we applied the method for estimating tortoises described in the 2010 survey protocol (Service 2010c). This calculation yields an estimate of four subadult or adult tortoises in the project footprint, but indicates that two tortoises likely were undetected: one tortoise because it was underground and another tortoise because it escaped detection. This estimate is based on an 80 percent probability that a tortoise is above ground based on the previous winter rainfall and a 63 percent probability of detecting a tortoise if

above ground (see Service 2010c). The Service's method for estimating tortoise numbers (Service 2010c) also allows us to calculate a 95 percent confidence interval used to indicate the reliability of the data. However, since the information required to perform this calculation (i.e., total length and number of transects walked) was not provided, we are unable to calculate the 95 percent confidence interval associated with the estimate and therefore, cannot determine the reliability of the estimate.

We also estimated the number of subadult and adult tortoises in the project footprint by applying density estimates for areas outside of Desert Wildlife Management Areas (DWMAs) and critical habitat within the Eastern Colorado Desert Recovery Unit, as determined in our amended biological opinion for the California Desert Conservation Area (CDCA) Plan for the Northern and Eastern Colorado Desert (NECO) Coordinated Management Plan amendment (Service 2007). As discussed in our amended biological opinion for the NECO amendment to the CDCA Plan (Service 2007), to derive the density of tortoises outside of DWMAs and critical habitat in the Eastern Colorado Desert Recovery Unit, we multiplied the average density of tortoises in the recovery unit by 0.1, resulting in a density estimate of 0.7 tortoises per square km (1.8 tortoises per square mi). We estimated the density of tortoises within the DWMAs and critical habitat in the recovery unit based on an average of the densities for the recovery unit from line-distance sampling conducted between 2001 and 2005 (Service 2006). We considered areas outside of DWMAs and critical habitat to support lower densities of tortoises based on numerous factors, including elevation, rainfall, vegetation community composition, and other geographic variables that naturally support fewer animals where habitat conditions are not as favorable as with DWMAs and critical habitat. Based on habitat quality and the very low numbers of desert tortoises found using protocol surveys in the project footprint, and the results of several surveys for other projects along the I-10 corridor, we conclude the 0.7 tortoises per square km density estimate is a reasonable approximation for the project footprint, as well, and constitutes the best available information. Applying this density of 0.7 tortoises per square km (1.8 tortoises per square mi) to the project footprint yields an estimate of 20 subadult and adult tortoises.

Applying these two methods, we anticipate that from 4 to 20 subadult and adult tortoises may be present in the project footprint. We acknowledge that the estimate of four tortoises likely is an underestimate, based on the type and amount of tortoise sign found in the project area and the adjacent survey zone, and that the estimate of 20 tortoises likely is an overestimate since it is based on our assumptions of tortoise densities outside of DWMAs and critical habitat. However, we determined that applying the estimate of 20 tortoises in the project footprint would provide a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

In addition to subadult and adult tortoises, the project footprint is likely to contain juvenile tortoises. Estimating densities of hatchling and juvenile tortoises is difficult because they are extremely difficult to detect due to their small size and cryptic nature. However, based on a 4-year study of their population ecology, Turner *et al.* (1987) determined that juveniles accounted for 31 to 51 percent of the overall population. Using this range and the estimated 20 subadult and adult tortoises that could be found in the project footprint, we estimate that the project

footprint may support from 6 to 10 juveniles. We recognize that the survey data used for these estimates come from a limited number of studies and that population levels are constantly changing. We also recognize that since our estimate of the number of subadult and adult tortoises in the project footprint is likely an overestimate (as discussed above), this estimate of juveniles in the project footprint is likely an overestimate as well, but provides the best available data available to establish a baseline for analysis.

We also expect the proposed project footprint contains tortoise eggs. Estimating the number of tortoise eggs is also extremely difficult given that the eggs are buried beneath the soil surface. To estimate the number of eggs that could be present, we used the average number of eggs found in a clutch (i.e., 5.8, see Service 1994a). Assuming a 1:1 sex ratio, 10 of the 20 tortoises estimated in the project footprint may be reproductive females that together could produce approximately 58 eggs per year. However, it is difficult to estimate the number of females or eggs within the project footprint based on the low number of tortoises found during the pre-project surveys. Given the number of assumptions and extrapolations used to estimate the number of eggs [i.e., that 20 tortoises may occur on site and that 10 of those 20 may be female and equally reproductive as the tortoises in the Turner *et al.* (1984) study area], we determined that the estimate of 58 eggs on the project site has an unknown but high level of uncertainty, and therefore, does not provide a useful measure for analyzing the effects of the proposed project. Therefore, we cannot calculate a reliable estimate for the number of eggs that may be impacted by the proposed project.

The concentration of tortoise sign in the western portion of the project footprint and adjoining area is consistent with the assessment of generally higher quality habitat for tortoises in the same area, likely due to proximity to the McCoy Mountains and greater availability of water and forage associated with related drainages (AECOM 2010a). The reduced amount of tortoise sign on the eastern side of the project footprint and along the transmission line corridor south of I-10 is consistent with the assessment of lower-quality habitat in these areas. This habitat quality gradation is consistent with the recent U.S. Geological Survey (USGS) tortoise habitat model (Nussear *et al.* 2009). Based on the model, habitat quality is ranked from 0-1, with 1 representing high quality habitat. Values in the project area range from 0.4 to 0.6 (along the westernmost edge of the project area), to 0.3 and below (low quality) for the rest of the project area (AECOM 2010a).

Despite the lower-quality habitat in the eastern portion of the project footprint and transmission line corridor, any portion of the project footprint may be used by tortoises for dispersal from surrounding habitat (AECOM 2010a). Desert tortoises are known to use lower-quality intermountain habitat, such as on eastern parts of the project footprint, as dispersal routes, providing passage between high-quality habitat areas in the surrounding mountains (Averill-Murray and Averill-Murray 2005). Historically, tortoise populations in the Sonoran Desert have exchanged individuals at a rate of one migrant per generation (Averill-Murray and Averill-Murray 2005).

Proposed Recipient (Translocation) Sites

Recipient sites must be sufficiently large to accommodate and maintain the resident (if present) and translocated desert tortoises, as well as be free of disease (Service 2010b). In addition, identification of at least two recipient sites is necessary in case resident tortoises at the primary site are determined to be infectious. Tortoises translocated from the plant site would be translocated to the McCoy Mountains (primary site) or Upper McCoy Wash (secondary site) recipient sites. If infectious tortoises are present at the primary site, tortoises from the project site will be translocated to the secondary site, after resident tortoises at that site have been determined to be free of disease. The exact locations and boundaries of these two recipient sites will be identified in the final Relocation/Translocation Plan that will be finalized and approved by the Service before the initiation of any ground-disturbing construction activities (see “Conservation Measures” section above). No designated critical habitat occurs in or near the McCoy Mountains or Upper McCoy Wash recipient sites; therefore, none will be adversely affected.

The McCoy Mountains recipient site will be in the McCoy Valley on BLM-managed lands and adjacent to the McCoy Mountains Bighorn Sheep Wildlife Habitat Management Area (WHMA). No ROW or utility corridors currently exist, and future demand is not anticipated in this recipient site. Though two BLM-designated routes of travel (unmaintained roads) traverse the recipient site, the proposed project will block access to the recipient site from these routes. The McCoy Valley area historically has received lower levels of recreational use, and such use is not anticipated to increase substantially in the future. Habitat value for desert tortoises in this area is similar to the higher quality habitat on the western portion of the project area and therefore is expected to fulfill the feeding, breeding, sheltering requirements of translocated tortoises. The recipient site is within a proposed solar study area in BLM’s Solar Energy Study Area Maps published in June 2009 as part of the public scoping process for the Solar Energy Development Programmatic EIS, which would be prioritized for solar development if this EIS is approved. However, due to the presence of several deeply incised washes, we believe the recipient site is likely impractical for future additional solar development. For the reasons discussed above, the REAT agencies assume future conflicting uses are unlikely to be proposed or approved that would impact desert tortoises at this recipient site.

The Upper McCoy Wash recipient site will be on BLM-managed lands in the upper McCoy Wash area, approximately 16 to 32 km (10 to 20 mi) north of the project area, and adjacent to designated wilderness protected from future development. The site will be chosen to avoid, to the extent possible, existing ROW or utility corridors or designated routes of travel, or areas where future demand is anticipated. The upper McCoy Wash area historically has received lower levels of recreational use, and such use is not anticipated to increase substantially in the future. Habitat value for desert tortoises in this area overall is similar to the higher quality habitat on the western portion of the project area and therefore is expected to fulfill the feeding, breeding, and sheltering requirements of translocated tortoises. The upper McCoy Wash area is not within a proposed solar study area in BLM’s Solar Energy Study Area Maps published in

June 2009 as part of the public scoping process for the Solar Energy Development Programmatic EIS, which would be prioritized for solar development if the EIS is approved. For the reasons discussed above, the REAT agencies assume future conflicting uses are unlikely to be proposed or approved that would impact desert tortoises at this recipient site.

In the absence of site-specific information and for the reasons described above, we applied the same 0.7 tortoises per square km (1.8 tortoises per square mi) density to estimate tortoise density at these recipient sites as we did to estimate the density of tortoises on the project footprint. Applying this density yields an estimate of five tortoises at the approximately 688-ha (1,700-ac) McCoy Mountains recipient site (i.e., 0.7 tortoises per square km multiplied by 6.9 square km). For the Upper McCoy Wash recipient site, we anticipate that the site will be up to approximately 1,214 ha (3,000 ac), equating to roughly to the amount of higher quality habitat on the western side of the proposed project site. While we expect that some tortoises may be found in the eastern side of the project footprint, we anticipate that the majority of the tortoises found on site will be found in the higher quality habitat on the western side due to the presence of more productive, higher quality habitat. Therefore, we determined that a recipient site of roughly this same size should provide adequate area for feeding, breeding, and sheltering for translocated tortoises. Applying this density yields an estimate of eight tortoises at the approximately 1,214 ha (3,000 ac) Upper McCoy Wash recipient site (i.e., 0.7 tortoises per square km multiplied by 12 square km). However, as discussed above, we acknowledge that this estimate is likely an overestimate but provides a biologically conservative approach based on the best data available to establish a baseline for analysis of the potential impacts of the proposed project.

Proposed Control Site

To provide “control” baseline data from which to compare the effectiveness of translocation as a project minimization measure, the same number of translocated tortoises monitored will also be monitored at a control site. The exact location of the control site will be identified in the final Relocation/Translocation Plan that will be approved by the Service before the initiation of any ground-disturbing construction activities (see “Conservation Measures” section above). The control site will be within the upper McCoy Wash area described above. Per the Service’s translocation guidance (Service 2010b), the control site will (1) be equivalent in habitat type/quality and tortoise population size/structure as its respective recipient site, (2) not have previously received translocated tortoises, and (3) be at least 10 km (6 mi) from either recipient site to prevent the interaction of control, resident, and translocated tortoises. Once the exact location is identified, tortoise density at the control site will be estimated prior to the initiation of translocation activities to ensure that the control site contains the appropriate number of tortoises for monitoring purposes. The control site will be used to monitor resident tortoises only; no tortoises from the project footprint will be translocated to the control site. No designated critical habitat occurs in the upper McCoy Wash where the control site is anticipated to be located; therefore, none would be adversely affected.

Future Conservation Lands

Habitat acquisition is proposed to offset impacts to tortoise habitat resulting from the proposed project. As part of the proposed project, conservation lands will be acquired within the Colorado Desert Recovery Unit as described in the species' draft revised recovery plan (Service 2008) [includes the Eastern and Northern Colorado Desert Recovery Units as identified in the species' original recovery plan (Service 1994a)]. While the location of these lands has not yet been determined, the REAT agencies have agreed that privately-owned lands will be acquired to benefit tortoise habitat linkages and population connectivity within and between tortoise critical habitat units, known populations of tortoises, and/or other preserve lands in the Colorado Desert Recovery Unit (BIO-12). These future conservation lands will be conserved and managed in perpetuity for tortoises. Using available data on landownership and willing sellers, the Service has determined that a sufficient amount of privately owned desert tortoise habitat exists within the Colorado Desert Recovery Unit that will be available for acquisition.

The abundance of tortoises in future conservation areas is unknown since the specific areas have not yet been identified. However, because acquisition will focus on areas connected to lands with tortoise habitat equal to or better quality than the project footprint (BIO-12), we anticipate that these future conservation lands will contain suitable habitat that is currently occupied or likely to be occupied in the future.

Factors Affecting the Species Environment within the Action Area

Project Area

Due to the lack of development, tortoises in the majority of the project area (particularly the portion north of I-10) are not now impacted by extensive habitat loss or degradation. However, the tortoises are impacted to some extent by several unmaintained roads, invasive nonnative plants, and potentially by predation from common ravens foraging, nesting, and roosting along existing transmission lines south of the action area (south of I-10) and from common ravens nesting elsewhere in the vicinity.

The southern portion of the project area that includes the gen-tie transmission line crosses I-10 and then runs along an existing utility corridor that contains several existing or authorized transmission lines, and will contain the planned CRS substation and DPV2 transmission line. The existing transmission lines include the Devers to Palo Verde No. 1 and Blythe Energy lines. The Service issued biological opinions exempting take of several species, including the tortoise, associated with the Blythe Energy line in 2005, and exempting take of the tortoise associated with the Desert Southwest line in 2006 and is nearing completion of formal consultation on the potential impacts of the DPV2 line on tortoises. The Blythe Energy line was recently completed but construction on the Desert Southwest line has not yet been initiated.

The Service issued a programmatic biological opinion evaluating the effects of BLM's CDCA plan amendment for the NECO Plan on tortoises in 2002 and as amended in 2005 and 2007. The programmatic biological opinion exempted take for causal uses (recreation, mining, and vehicle use), livestock grazing, and removal of burros that BLM authorizes through approval of the CDCA Plan. Projects outside of these categories require separate consultation.

Issuance of biological opinions for the Blythe Energy and Desert Southwest transmission lines, and shortly for the DPV2 transmission line, has allowed or may allow for additional take of tortoises and degradation of tortoise habitat in the project footprint, primarily where the gen-tie line will parallel these existing and future lines in the utility corridor adjacent to I-10.

Operations and maintenance activities associated with these existing and future transmission lines may also affect species populations in the project area. Issuance of the biological opinion for activities covered under the NECO Plan allows for additional take of tortoises along the designated routes of travel (unmaintained roads) in the project area.

Proposed Recipient (Translocation) Sites

The general area of both recipient sites is undeveloped and therefore not impacted by extensive habitat loss or degradation. However, both sites may be impacted to some extent by invasive nonnative plants, and the McCoy Mountains site may be impacted by predation from common ravens foraging, nesting, and roosting along existing transmission lines south of the action area (south of I-10) and from common ravens nesting elsewhere in the project vicinity.

Proposed Control Site

The exact location of the proposed control site in the upper McCoy Wash area has not yet been determined. The majority of this area is undeveloped and therefore not impacted by extensive habitat loss or degradation.

Future Conservation Areas

While the location of these lands has not yet been determined, privately owned lands will be acquired to benefit tortoise habitat linkages and population connectivity within and between tortoise critical habitat units, known populations of tortoises, and/or other preserve lands in the Colorado Desert Recovery Unit in the BLM's NECO bioregional planning unit (BIO-12). These future conservation lands will be conserved and managed in perpetuity for tortoises.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat that would be added to the environmental baseline, along with the effects of other activities that are interrelated or interdependent with that action. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification.

Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur. In contrast to direct effects, indirect effects can often be more subtle, and may affect species and habitat quality over an extended period of time, long after project activities have been completed. Indirect effects are of particular concern for long-lived species such as the tortoise, because project-related effects may not become evident in individuals or populations until years later.

Methodology

Permanent versus Temporary Impacts

Since full recovery of vegetation in the desert can take decades or longer, we consider all ground-disturbing impacts associated with the BSPP project to be permanent. Vasek *et al.* (1975) found that in the Mojave Desert transmission line construction and O&M activities result in a permanently devegetated maintenance road, enhanced vegetation along the road edge and between tower sites, and reduced vegetation cover under the towers, which recovered significantly but not completely in about 33 years. Based on a quantitative review of studies evaluating post-disturbance plant recovery and success in the Mojave and Sonoran Deserts, Abella (2010) found that reestablishment of perennial shrub cover (to amounts found on undisturbed areas) generally occurs within 100 years but fewer than 40 years in some situations. He also found that vegetation recovery times are likely impacted by a number of variables, including but not limited to climate, invasion by nonnative plants, and level of ongoing disturbance. Based on these factors, we consider temporary impacts to be equivalent to permanent impacts for the purposes of our effects analysis relative to the 30-year life of the project.

A total of approximately 2,816 ha (6,958 ac) of tortoise habitat would be directly impacted by construction and O&M activities associated with the proposed project (Table 1). As discussed in the “Description of the Proposed Action” section above, we do not anticipate additional impacts to habitat during O&M activities outside of what would be impacted during construction. The conservation measures included as part of the project description would help avoid, minimize, and offset impacts to tortoises resulting from construction and O&M activities.

As discussed in the “Environmental Baseline” section above, we estimate that up to 20 subadult and adult tortoises, up to 10 juveniles, and an unquantifiable number of eggs could occur in the project footprint. We also estimate that up to 13 subadult and adult tortoises could occur in both recipient sites combined. All of these individuals could be directly and indirectly impacted by the proposed project.

*Direct Effects*Death and InjuryConstruction and O&M

Death or injury of tortoises could result from collisions with or crushing by vehicles or heavy equipment, including crushing of individuals that take shelter under parked vehicles and are killed or injured when the vehicle is moved. Desert tortoises could also be injured or killed after being trapped in pipes or construction excavations. Other direct effects could include individual tortoises or their eggs being crushed or buried in burrows during construction and O&M-related activities. Because of increased human presence in the area or injured or killed due to encounters with workers' or visitors' pets, desert tortoises may be collected or vandalized. Desert tortoises may also be attracted to the construction area by application of water to control dust, placing them at higher risk of death or injury.

To minimize the death and injury of tortoises residing in or entering the construction or O&M disturbance areas (e.g., the plant site, linear facilities, and rerouted channels), the applicant would implement the general and species-specific conservation measures proposed as part of the project. Accordingly, take of tortoises would be minimized by the presence of a Designated Biologist during ground-disturbing construction and O&M activities in the project footprint (BIO-2 and BIO-11). As specified in the CEC's condition of certification BIO-1, the Designated Biologist must meet the Service's Authorized Biologist qualifications and be approved by the Service prior to the initiation of ground-disturbing construction activities. Death or injury of tortoises during construction would also be minimized by demarcation of all sensitive biological resource areas by the Designated Biologist (BIO-2). Death or injury of tortoises would be further minimized during construction and O&M activities by demarcation of all work area boundaries prior to ground-disturbing activities, limiting vehicular and equipment traffic to existing routes of travel, and designing and installing all project components off the plant site (e.g., access roads, storage and parking areas, pulling sites, and rerouted channels) to minimize impacts to native plant communities and sensitive biological resources (BIO-8).

Construction activities on the majority of the 2,768-ha (6839-ac) plant site would be conducted during the species' more active period as described in the project description and in the Relocation/Translocation Plan, thereby maximizing the potential to locate and move tortoises out of the disturbance area during construction of Phases 1b and 2. Construction of Phase 1a is proposed to begin during the species' less active season. However, the Phase 1a area includes areas of the project footprint containing a lower density of tortoise sign, and no live tortoises, active burrows, or fresh scat or tracks. Therefore, we anticipate that few, if any, tortoises likely occur in this area. However, death or injury of tortoises due to construction of any of the three phases would be minimized by the requirement for the Designated Biologist to conduct preconstruction clearance surveys of the project area prior to construction and either relocate individuals out of harm's way or translocate individuals to the recipient site as outlined in the

Service-approved Relocation/Translocation Plan, following Service-approved methods (BIO-9 and BIO-10).

Construction and O&M disturbance areas cleared of tortoises would be either enclosed with tortoise exclusion fencing or monitored by the Designated Biologist or Biological Monitors trained by the Designated Biologist to prevent individuals from re-entering the disturbance area (BIO-3, BIO-8, and BIO-9). Installation of the tortoise exclusion fencing around the plant site would preclude tortoises from re-entering or leaving if not found and removed during clearance surveys. During construction and O&M, breaches in the exclusionary fencing may allow tortoises to pass through the barrier and be affected by project-related activities. However, these potential effects would be minimized by the requirement to conduct at least two clearance surveys of the project footprint and regularly inspect all permanent and temporary tortoise exclusion fencing, and repair damage to all temporary and permanent fencing immediately (BIO-9).

Any tortoises overlooked by the initial clearance surveys may be detected during construction activities by routine site inspections by the Designated Biologist (BIO-2) or incidental observations by construction workers. The Worker Environmental Awareness Program would be administered to all onsite personnel and be repeated annually for all permanent personnel and within 1 week of arrival to any new construction personnel (BIO-6). This training would enhance the effectiveness of onsite personnel detecting tortoises during construction and O&M activities, and either avoiding them or ensuring they are properly relocated.

The posting and enforcement of specified speed limits and inspections underneath parked vehicles (BIO-8) would further reduce the risk to any tortoises that inadvertently venture onto the roadway during construction or O&M activities. To reduce the likelihood of tortoises in construction areas being trapped in pipes, trenches, or other excavations and being injured or killed, all pipes greater than 8 cm (3 in) stored close to the ground and all excavations would be covered, fenced, or backfilled, and inspected by the Designated Biologist (BIO-2 and BIO-8). To reduce the likelihood of tortoises being attracted to construction areas by application of water to control dust, the minimal amount of water needed would be applied to dirt roads and construction areas, and a Biological Monitor would patrol those areas to ensure water does not puddle (BIO-8).

Overall, we expect that death and injury of most subadult and adult tortoises would be avoided during construction and O&M activities through compliance with the conservation measures. However, since tortoise eggs and juveniles are difficult to detect, we anticipate that an unknown number of eggs and juveniles occurring in the project footprint would be killed or injured due to construction and O&M activities. We do not expect loss of eggs or juveniles in the project footprint would affect the species local population level since early life stages naturally suffer higher mortality rates and are not as important to the long-term conservation of the species as are adults.

Capture, Handling, and Relocation/Translocation

In addition to construction and O&M-related activities, accidental death and injury could result from capturing, handling, and moving tortoises for the purposes of relocating or translocating them out of the project footprint. Accidental death and injury could result from (1) stress or disease transmission associated with handling tortoises, (2) stress associated with moving individuals outside of their established home range, (3) stress associated with artificially increasing the density of tortoises in an area and thereby increasing competition for resources, and (4) disease transmission from translocated individuals to residents. Capture and handling of translocated, resident, and control tortoises for the purposes of disease testing and monitoring could also result in accidental death or injury from handling to conduct visual health assessments, draw blood for ELISA testing, and secure transmitters.

We anticipate that the applicant would capture and relocate or translocate most subadult and adult desert tortoises from harm's way in the project footprint. Because of the difficulty in locating juvenile desert tortoises or eggs, the applicant may find and move some but not all juvenile desert tortoises or eggs from the project footprint. Depending on where in the plant site tortoises are found, some individuals would be moved relatively short distances [i.e., less than 500 m (1,640 ft)] but likely still within their home range, and others would be moved farther [i.e., more than 500 m (1,640 ft)], outside of their existing home range.

Capturing, handling, and moving tortoises for the purposes of translocating them out of the project footprint may result in accidental death or injury if these methods are performed improperly, such as during extreme temperatures, or if tortoises void their bladders and are not rehydrated. Averill-Murray (2001) determined tortoises that voided their bladders during handling had lower overall survival rates (0.81-0.88) than those that did not void (0.96). If multiple tortoises are handled by biologists without the use of appropriate protective measures and procedures, such as reused latex gloves, pathogens may be spread among individuals. Walde *et al.* (2008) found that the differences in reproduction among translocated, resident, and control desert tortoises were "not likely to be statistically significant" in a study of tortoises at Fort Irwin.

Translocated tortoises may suffer a higher potential for mortality following release when they are moved into unfamiliar territory, and are less likely to have established cover sites for protection prior to home range establishment. Studies have documented various sources of mortality for translocated individuals, including predation, exposure, fire, disease, and flooding (Nussear 2004, Field *et al.* 2007, Berry 1986, U.S. Army 2009 and 2010). The degree to which tortoises move after translocation depends on whether they are released into typical or atypical habitat; that is, if the recipient area supports habitat similar to that of the source area, tortoises are likely to move less (Nussear 2004). In one study, the majority of dispersal movement away from the release site occurred during the first 2 weeks after translocation (Field *et al.* 2007). However, Field *et al.* (2007) and Nussear (2004) showed translocated tortoises appear to reduce movement

distances following their first post-translocation hibernation to a level that is not significantly different from resident populations.

Mean straight-line dispersal distances of adult translocated tortoises (males and females) reported by Nussear (2004, Figures 2 and 4) were approximately 1 km (0.6 mi), 1.5 km (0.9 mi), 1.8 km (1.1 mi), 3.5 km (2.2 mi), and 6 km (3.7 mi). Walde *et al.* (2008) reported mean straight-line dispersal distances of adult translocated tortoises using two experimental treatments being 2.6 km (1.6 mi) and 4.2 km (2.6 mi) for males and 1.5 km (0.9 mi) and 2.3 km (1.4 mi) for females. In both of these studies, the mean straight-line dispersal distances were for translocated tortoises released over 500 m (1,640 ft) from their original point of origin.

Maximum straight-line dispersal distances for translocated male tortoises range from 6.2 km (3.9 mi) to 23 km (14.3 mi) in the first year following translocation (Field *et al.* 2007, Walde *et al.* 2008). Maximum straight-line dispersal distances for translocated males at each site reported in these studies ranged from approximately 6.2 km (3.9 mi) (Field *et al.* 2007) to 7.3 km (4.5 mi), 7.4 km (4.6 mi), 11.3 km (7.0 mi), 11.6 km (7.2 mi), and 12.6 km (7.8 mi) (Walde *et al.* 2008). In both of these studies, the maximum straight-line dispersal distances were for translocated male tortoises released over 500 m (1,640 ft) from their original point of origin.

We consider the 23 km (14 mi) dispersal distance likely represents an outlier since only one male tortoise moved this far, roughly twice the distance of the other translocated tortoises. Removing this outlier, the maximum straight-line dispersal distances for males would be 12.6 km (7.8 mi). Based on these data, which constitute the best available scientific and commercial data at this time, we determined that the majority of tortoises translocated long distances [greater than 500 m (1,640 ft)] may disperse up to approximately 12.6 km (7.8 mi) from the release point in first year following release. Since female tortoises were found to move shorter distances than males following translocation (Field *et al.* 2007, Walde *et al.* 2008), the 12.6 km (7.8 mi) distance captures the maximum straight-line dispersal distance of translocated females as well.

Tortoises translocated shorter distances [i.e., less than 500 m (1,640 ft)] are not likely to move as far following release as tortoises moved longer distances. Walde *et al.* (2008) found that maximum straight-line dispersal distance for male tortoises was approximately 1.5 km (0.9 mi) in the first year following translocation.

In a study conducted in Ivanpah Valley, 21.4 percent of 28 translocated tortoises died (Field *et al.* 2007). Other studies have documented mortality rates of 0, 15, and 21 percent in other areas (Nussear 2004), though this study found that mortality rates among translocated desert tortoises was not statistically different from that observed in resident populations. Because Nussear (2004) did not compare mortality rates in resident populations to those in control groups, we cannot determine if the translocation caused increased mortality rates in the resident population. Recent work on translocation associated with the expansion of Fort Irwin (U.S. Army 2009 and 2010) compared the mortality rates associated with resident and translocated populations with that of the control populations and indicated translocation did not increase mortality above

natural levels (Esque *et al.* 2010). This and other fieldwork indicate that tortoise mortality is most likely to occur in the first year after release. After the first year, translocated individuals are likely to settle into new home ranges and mortality is likely to decrease.

Desert tortoises from the BSPP site would be moved into areas already supporting resident tortoises. As a result, there could be increased competition for forage, especially during drought years. Increased tortoise densities may lead to increased inter-specific encounters and thereby increase the potential for spread of disease, potentially reducing the health of the overall population. Increased tortoise densities also may lead to increased competition for shelter sites and other limited resources or increased incidence of aggressive interactions between individuals (Saethre *et al.* 2003). Therefore, recipient sites must be sufficiently large to accommodate and maintain the resident and translocated desert tortoises (Service 2010b). Based on our current estimates of the resident population densities in the recipient sites [i.e., 0.7 tortoises per square km (1.8 tortoises per square mi)] as discussed in the “Environmental Baseline” section, we calculated the maximum allowable final density³ at the recipient sites. Based on this calculation, no more than 58 tortoises⁴ and 108 tortoises⁵ can be translocated from the project footprint to the McCoy Mountains site or Upper McCoy Wash site, respectively. Since we estimate that no more than 20 subadult and adult tortoises will be found in the project footprint, translocation of individuals from the project site to either recipient site is not likely to impact the current density of the recipient site. Based on site-specific survey information, if the recipient sites prove to be too small, the applicant would be required to identify a new recipient area for the additional desert tortoises. This action would constitute a significant change in the project description and would likely require re-initiation of consultation.

Translocation has the potential to increase the prevalence of diseases, such as upper respiratory tract disease, in a resident population. Physiological stresses associated with handling and movement or from density-dependent effects could exacerbate this threat if translocated individuals with subclinical upper respiratory tract disease or other diseases begin to exhibit clinical signs of disease due to the stresses associated with handling and movement. This potential conversion of translocated desert tortoises from a non-contagious to contagious state may increase the potential for infection in the resident population above pre-translocation levels.

Following the Service’s translocation guidance (Service 2010b), translocated tortoises from the plant site would be assessed for the presence of disease prior to translocation. For tortoises on the plant site that would be moved less than 500 m (1,640 ft), only visual health assessments would be conducted. For tortoises found on the plant site that would be moved greater than 500 m (1,640 ft) to the recipient site, visual health assessments and blood draw for ELISA testing

³ Defined as 130 percent of the mean density detected in the respective recovery unit (Service 2010b). Mean density in the Eastern Colorado Desert Recovery Unit is estimated to be 7 desert tortoise per square km (18.1 desert tortoise per square mi) based on line-distance sampling conducted between 2001 and 2005 (Service 2006).

⁴ Calculated as 6.9 square km recipient site multiplied by 9 desert tortoise per square km [130 percent multiplied by the mean density of the recovery unit (7 desert tortoise per square km)]

⁵ Calculated as the 12 square km recipient site multiplied by 9 desert tortoise per square km [130 percent multiplied by the mean density of the recovery unit (7 desert tortoise per square km)]

would be conducted. In addition, visual health assessments and blood draw for ELISA testing would be conducted on an equivalent number of resident tortoises at the recipient site and control site. We cannot precisely predict how many tortoises would require blood draw since the final number depends on the total number of tortoises translocated, the number of tortoises translocated greater than 500 m (1,640 ft), and the actual (versus estimated) number of resident tortoises in the recipient site. However, we anticipate a maximum of 60 tortoises may require blood draw (up to 20 from the plant site, up to 20 resident⁶ tortoises from the recipient site, and up to 20 tortoises at the control site).

Following the Service's translocation guidance (Service 2010b), an equal number of translocated, resident, and control tortoises should be monitored for at least 5 years. Therefore, the 60 tortoises anticipated to require blood draw for the purposes of translocation also will carry transmitters and be regularly monitored and handled annually for health assessments and blood draw for ELISA testing. Some potential exists that handling of desert tortoises for the purposes of conducting health assessments and monitoring may cause elevated levels of stress that may render these animals more susceptible to disease or dehydration from loss of fluids.

As discussed above, translocated tortoises have been found to disperse up to approximately 12.6 km (7.8 mi) from the release point in first year following release, though tortoises are likely to move shorter distances if habitat at the recipient site is similar to that of the source area. To minimize the risk associated with long-distance dispersal and potential contact between translocated tortoises and diseased resident tortoises, the Service recommends that health assessments and blood draw for ELISA testing is performed on a sample of the resident tortoises within the 12.6 km (7.8 mi) dispersal area to determine disease prevalence within the population. However, for the purposes of the proposed project, we have determined that ELISA testing is not necessary for resident tortoises within the 12.6 km (7.8 mi) dispersal area associated with either recipient site. Our determination is based on the assumption that tortoises translocated from the plant site are likely to remain closer to their release point due to the presence of similar, or better quality, habitat than that on the plant site and are therefore, less likely to come into contact with diseased resident tortoises.

As discussed in the "Environmental Baseline" section, both recipient sites will be located within areas of similar, or better quality, habitat to that found on the western portion of the project area, where we anticipate finding the majority of the tortoises. Availability of water, forage, and cover sites appears to be higher on the western portion of the project area and the recipient sites due to their proximity to the mountains. However, if post-translocation monitoring reveals that tortoise translocated over 500 m (1,640 ft) from the plant site to the recipient site become infected, then a sample of resident tortoises within the 12.6 km dispersal area would be tested to determine disease prevalence before additional tortoises would be translocated to that recipient site.

⁶ As discussed in the "Environmental Baseline" section, we estimate that up to five tortoises may occur in the McCoy Mountains recipient site and up to eight tortoises may occur in the Upper McCoy Wash recipient site. Therefore, our estimate that 20 resident tortoises at the recipient site may require blood draw would cover any additional tortoise up to 20 found during surveys of these recipient sites.

We cannot reasonably predict the increase in disease prevalence within the resident population that may occur due to translocation. However, the following mitigating circumstances are likely to reduce the magnitude of this threat: (1) the applicant would use experienced biologists and approved handling techniques that are unlikely to result in substantially elevated stress levels in translocated animals, (2) desert tortoise on the plant site are currently part of a continuous population with the resident populations of the primary recipient site (McCoy Mountains) and are likely to share similar pathogens and immunities, (3) some of the translocated desert tortoise would be translocated a relatively short distance, which is likely to reduce post-translocation stress associated with long-distance movements, (4) density-dependent stresses are unlikely to occur for the reasons discussed above, (5) any animal that either has clinical signs of disease or tests ELISA-positive would not be translocated, and (6) monitoring of translocated individuals would be implemented to determine the prevalence of disease transmission.

Because ELISA testing can result in false-positive results (i.e., an animal may test positive even though it is not a carrier of the disease), the potential exists for removal of healthy individuals from the translocated population due to concern over disease. These individuals would not be released into the wild and would no longer contribute to the environmental baseline for the action area. Because the applicant would coordinate with the Service and perform follow-up testing of ELISA-positive individuals, the potential for removing false-positive individuals from the translocated population is low. Consequently, we conclude that few, if any, desert tortoises will be incorrectly removed from the population due to false positive results. Similarly, some of the animals that test positive may have survived past disease infections and are healthy. Though our understanding of disease ecology is not complete and removal of these individuals from the wild population could eliminate individuals with superior fitness and genetic adaptations for surviving disease from the gene pool, the low numbers of tortoises involved likely would not be large enough to affect population genetics in the wild.

In conclusion, we do not anticipate that relocating tortoises out of harm's way, but less than 500 m (1,640 ft) from the point of capture, will result in death or injury because these individuals would be moved a relatively short distance and they would remain near or within their home range. Since relocated tortoises typically remain within their home range, we do not anticipate additional significant social or competitive impacts to resident tortoises in the area. However, following release of tortoises translocated outside of their home range, we anticipate a small number may die due to predation, exposure, disease, or competition. We anticipate most of this mortality is likely to occur in the first year after release, during the period that translocated animals are making long-distance movements and attempting to establish new home ranges. In addition, we anticipate that a small number of resident tortoises at the recipient site may die due to predation, exposure, disease, or competition. However, we cannot determine if mortality rates in the resident or translocated populations will be above natural mortality levels for the recipient site. In addition, the potential impacts of capturing, handling, and moving tortoises for the purposes of relocation or translocation would be minimized by the requirement for experienced biologists to handle all tortoises following Service-approved guidelines and relocate individuals out of harm's way or translocate individuals to the recipient site as outlined in the Relocation/

Translocation Plan (BIO-9 and BIO-10). In addition, as outlined in the Relocation/Translocation Plan, translocated tortoises would be monitored, findings reported to the Service, and adaptive management strategies implemented, as needed.

Habitat Loss

To offset permanent losses of 2,816 ha (6,958 ac) of tortoise habitat, a total of 2,816 ha (6,958 ac) of equivalent or better quality habitat would be acquired to benefit tortoise habitat connectivity and habitat linkages between tortoise critical habitat, known populations of tortoises, and/or other preserve lands in the Colorado Desert Recovery Unit in the BLM's NECO bioregional planning unit (BIO-12). These future conservation lands will be conserved and managed in perpetuity for tortoises.

Native shrubs and annual plants used by tortoises for sheltering and feeding adjacent to the project footprint also may be adversely affected by introduced or previously naturalized invasive nonnative plants (also referred to as weeds) that respond positively to ground disturbing activities. Project equipment may transport invasive nonnative plants into the project area where they may become established. Additionally, the potential introduction of noxious weeds may lead to increased wildfire risk (Brooks *et al.* 2003). However, potential degradation of habitat due to spread of invasive nonnative plants would be avoided and minimized by measures outlined in the Weed Management Plan designed to prevent the introduction of any new weeds and the spread of existing weeds as a result of project construction and O&M (BIO-14).

Indirect Effects

Human activities may provide food in the form of trash and litter or water that attracts tortoise predators such as the common raven. Ravens capitalize on human encroachment and expand into areas where they were previously absent or in low abundance. Ravens habituate to human activities and are subsidized by the food and water, as well as roosting and nesting resources that are introduced or augmented by human encroachment. The nearby Blythe airport and other urban areas provide food, water features, and roosting/nesting substrates (buildings, signs, lamps, and utility poles) that otherwise would be unavailable. Small mammal, fox, coyote, rabbit, lizard, snake, and tortoise road kill along I-10 and other roads provide additional attractants and subsidies for opportunistic predators/scavengers. Road killed wildlife would increase with project construction and O&M traffic, further exacerbating the raven/predator attractions and increasing tortoise predation levels.

Facility infrastructure such as power poles, fencelines, buildings, and other structures on the project site could also provide perching, roosting, and nesting opportunities for ravens. Natural predation rates may be altered or increased when natural habitats are disturbed or modified. Common raven populations in some areas of the Mojave Desert have increased 1,500 percent from 1968 to 1988 in response to expanding human use of the desert (Boarman 2002). Since ravens were scarce in the Mojave Desert prior to 1940, the existing level of raven predation on

juvenile tortoises is considered an unnatural occurrence (BLM 1990). In addition to ravens, feral dogs have emerged as significant predators of tortoises in rural residential areas. Though feral dogs may range several miles into the desert and have been found digging up and killing tortoises (Service 1994a, Evans 2001), we are not aware of any reports of feral dogs in the project area.

To minimize the generation of food and water subsidies due to construction and O&M-related activities, all trash materials would be disposed of in self-closing containers and removed daily to prevent the attraction of tortoise predators to the project footprint, road-killed animals would be immediately removed from the project footprint, and the minimal amount of water needed would be applied to dirt roads and construction areas to avoid standing water, with a Biological Monitor patrolling those areas to ensure water does not puddle (BIO-8). Also, increases in raven abundance in the project area would be minimized by measures outlined in the Raven Monitoring, Management, and Control Plan (Raven Plan) which include a program to monitor raven presence in the project vicinity, would determine if raven numbers are increasing, and would implement raven control as needed based on monitoring (BIO-13). The Raven Plan would also address raven monitoring and control at the proposed artificial water source in the McCoy Mountains to minimize impacts to bighorn sheep resulting from the BSPP project (BIO-21). To further minimize indirect and cumulative impacts of raven predation on tortoises associated with the proposed project, the applicant would contribute to the Service's Regional Raven Management Program (BIO-13) developed to address raven predation on tortoises at a population scale in the California Desert region as a conservation action for the species.

In addition, desert tortoise behavior may be impacted by increased noise levels and the presence of full-time facility lighting during construction and operation of the facility over a 30-year period. While we do not have data demonstrating the effect of increased noise levels and the presence of artificial lighting to desert tortoise behavior, several measures proposed to minimize these potential impacts on other sensitive species (BIO-8) will also benefit tortoises.

Given that the proposed construction of the plant site would result in the loss of a 2,768-ha (6,839-ac) block of habitat, the project may also impact tortoises by disrupting movement of individuals to habitat north and south of the project site. For gene flow to occur reliably across the range, populations of tortoises need to be connected by occupied areas of habitat that contain sustainable numbers of tortoises. Desert tortoise distribution and population genetic studies provide evidence that individual tortoises breed with their neighbors, those tortoises breed with their neighbors on the other side, and so on. Removal of 2,768 ha (6,839 ac) of tortoise habitat from the area between I-10 and the upper McCoy Wash area, where tortoises have been reported, may further limit movement of tortoises, though habitat would remain west and east of the project boundaries to provide for some level of connectivity to the upper McCoy Wash after construction of the proposed project.

Effect on Recovery

Per section 2(b), the primary purposes of the Act are to provide a means whereby the ecosystems upon which listed species depend may be conserved, and to provide a program for the recovery of listed species. Per section 2(c), Congress established a policy requiring all Federal agencies to use their authorities in seeking to recover listed species in furtherance of the purposes of the Act. Consistent with these purposes and Congressional policy, sections 3(5), 4(f), 7(a)(1), and the implementing regulations (50 *Code of Federal Regulations* § 402.02) to section 7(a)(2), and related preamble at 51FR19926 through 51FR19957, generally require Federal agencies to further the survival and recovery of listed species in the use of their authorities.

Pursuant to these mandates, our analysis below assesses (1) whether the proposed action adequately offsets its adverse effects to the environmental baseline to the desert tortoise, and (2) the extent to which the proposed action would cause “significant impairment of recovery efforts” or adversely affect the “species’ chances for survival to the point that recovery is not attainable” (51FR19934).

The applicant would implement numerous measures to avoid, minimize, reduce, and offset the adverse effects to the relatively few tortoises in the project footprint. Overall, we expect that 20 or fewer subadult and adult and 10 or fewer juvenile desert tortoises would be captured, injured, or killed during construction of the solar facility, and that an unquantifiable number of eggs may be moved or destroyed during construction. Few tortoises of any size would be killed or injured during O&M of the facility. We expect that most subadult and adult tortoises encountered during work activities would be either moved short distances out of harm’s way or translocated. Because the BLM and applicant would implement a variety of measures to reduce stress to these animals, we do not anticipate that injury or mortality would result from the handling and relocation of these animals.

We do not anticipate that loss of habitat in the project footprint would substantially reduce the ability of the tortoise to survive and recover in the wild because the recovery plan (Service 1994a) and final rule for designation of critical habitat for the species (Service 1994b) primarily focuses long-term conservation priorities in higher value habitat areas. The proposed acquisition of 2,816 ha (6,958 ac) of tortoise habitat would benefit tortoise habitat connectivity and habitat linkages between tortoise critical habitat, known populations of tortoises, and/or other preserve lands in the Colorado Desert Recovery Unit in the BLM’s NECO bioregional planning unit.

Based on the results of studies discussed above, most of the subadult and adult tortoises moved from the project footprint likely would continue to survive and reproduce at the location they are moved to (i.e., in adjacent habitat or the recipient site). Consequently, we anticipate that the proposed project would not appreciably diminish the reproductive capacity of the species, particularly in light of the relatively few tortoises that would be affected.

The distribution of the tortoise would be minimally reduced due to long-term disturbance associated with the proposed action because the proposed project would result in loss of a small percentage of the habitat in the Eastern Colorado Desert Recovery Unit [which includes the 413,022-ha (1,020,600-ac) Chuckwalla critical habitat unit, a majority of the approximately 404,685.64 ha (1,000,000 ac) Joshua Tree National Park, and additional lands]. This percentage does not constitute a substantial portion of the recovery unit. Given the location of the proposed project in an area near the edge of the tortoise's range, we do not anticipate that the amount of habitat to be lost because of the proposed project would reduce the distribution of the tortoise to an appreciable degree.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local, private, or certain tribal actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of any future State, local, private, or certain tribal actions that are reasonably certain to occur in the action area.

CONCLUSION

After reviewing the current status, environmental baseline for the action area, effects of the proposed action, and cumulative effects of the desert tortoise, it is the Service's biological opinion that the proposed action is not likely to jeopardize the continued existence of desert tortoises. We base this decision on the following:

1. The applicant will implement numerous measures to ensure that most tortoises are moved out of the project footprint and injury and death of tortoises is minimized (i.e., clearance surveys, exclusion fencing, relocation, translocation, and qualified tortoise biologists).
2. The applicant will implement measures to reduce the potential for increased predation by common ravens, both in the vicinity of the project footprint and regionally, and to reduce the spread of invasive nonnative plants in the project area.
3. Current information from permanent study plots and line distance sampling does not document a statistical trend in adult tortoise densities in the Eastern Colorado Desert Recovery Unit. Nonetheless, given the small number of tortoises affected by the proposed project, we have no information to indicate that development of the proposed project would appreciably reduce the tortoise population levels in this recovery unit.
4. Few, if any, tortoises are likely to be injured and killed as a result of relocation or translocation.

5. Though the proposed project would reduce the amount of available tortoise habitat in the McCoy Valley and thereby result in a loss of habitat connectivity in the McCoy Valley between the Chuckwalla and Chemehuevi DWMAs, sufficient habitat would remain to the west and east of the proposed project to provide connectivity of tortoises in the McCoy Valley in the long term. Relocation of some tortoises into habitat adjacent to the project area, and translocation of some tortoises to a recipient site either adjacent to the project or in the upper McCoy Wash, will increase tortoise numbers in those areas. Successful translocation would minimize these effects by allowing those tortoises to remain in the population and contribute towards recovery of the species.
6. Compensation requirements through BLM, CDFG, and CEC will result in an increase in the quantity and quality of habitat managed for the conservation of the tortoise.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulation pursuant to section 4(d) of the Act, prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below for desert tortoises are non-discretionary and must be undertaken by the BLM so that they become binding conditions of any grant or permit issued to the applicant/permittee, as appropriate, for the exemption in section 7(o)(2) to apply. The BLM has a continuing duty to regulate the activity covered by this incidental take statement. If the BLM (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant/permittee to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the BLM must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

AMOUNT AND EXTENT OF TAKE

We anticipate that the number of desert tortoises that may be taken would be low due to the small number of individuals found within the project footprint and the anticipated effectiveness of conservation measures described as part of the proposed action. However, quantifying the precise number of individuals that may be incidentally taken is not possible because this species is cryptically colored to avoid predation, and spends the majority of its life inhabiting burrows to avoid environmental extremes or predation, making the observation or detection of death or injury difficult. In addition, population numbers fluctuate in response to weather patterns and other biotic and abiotic factors, and population levels and the distribution of individual animals have changed since the species surveys were completed and are anticipated to continue changing over the 30-year life of the project. The number of tortoise eggs and juveniles is even more difficult to quantify because of small size, in addition to the other reasons discussed above. As a result, finding dead or injured individuals within the project area is difficult as individuals may be crushed or buried underground in burrows that were not found or inspected, and otherwise hard to recognize/detect for the reasons discussed above. Because eggs and juveniles are almost never found during clearance surveys, we assume virtually all these early life forms will be killed or injured by construction and O&M activities within the project footprint.

While we cannot provide the precise number of desert tortoises that may be taken, we have estimated the number of subadult and adult tortoises in the project footprint based on the best available information, and based on this estimate have established take thresholds that, if exceeded, will trigger reinitiation of consultation.

Take of desert tortoises is anticipated and exempted as follows:

- The disturbance of up to 2,816 ha (6,958 ac) of habitat from construction and O&M-related activities may result in accidental death or injury of tortoise eggs, juveniles, subadults or adults from crushing, trampling, or burial. If the project impacts more than this acreage of tortoise habitat, the take threshold will be exceeded.
- As discussed in the “Environmental Baseline” section above, we estimate that up to 20 subadult and adult tortoises, up to 10 juveniles, and an unquantifiable number of eggs could occur in the project footprint. While we cannot quantify the precise numbers of tortoises that may be killed or injured as a result of construction or O&M activities for the reasons discussed above, we anticipate the number of subadult and adult tortoises that may be killed or injured will be small because relatively few tortoises (2 individuals) were found during surveys, which indicates an apparently small population in the project footprint, and because most tortoises will be found during pre-project clearance surveys. Therefore, using our best professional judgment in light of best available information, we anticipate that construction of the proposed project will result in the incidental take of two individuals, and that O&M activities will result in incidental take of two individuals per year. However, based on the difficulty of detecting individual tortoises, we anticipate

each report of incidental taking likely represents the actual death or injury of two (2) tortoises. As a result, we anticipate no more than one (1) tortoise may be reported dead or injured from construction and no more than one (1) per year may be reported dead or injured from O&M activities. Thus, if more than one (1) tortoise is found injured or dead during construction activities, and more than one (1) tortoise per year is found injured or dead during O&M activities, the take threshold will be exceeded.

- Take of up to 20 subadult and adult tortoises, up to 10 juveniles, and an unquantifiable number of eggs due to trapping, capture, or collection for the purposes of relocation or translocation from within the project construction and O&M disturbance area. Because the capture, relocation, and release will be conducted by a Service-approved Biologist and, therefore, is not expected to result in direct injury or death of any relocated/translocated tortoises, we do not want to limit the ability of the Service-approved Biologist to avoid and minimize the direct injury or death of tortoises by relocating/translocating tortoises found during preconstruction clearance surveys. Thus, all take in the form of trapping, capture, or collection for the purposes of relocation is exempted for any eggs, juveniles, or subadult or adult tortoises found during clearance surveys, monitoring activities, or other incidental observations, subject to the reasonable and prudent measures and terms and conditions below. If any tortoises are directly injured or killed during relocation or translocation, the take threshold will be exceeded.
- All take, in the form of capture or collection of subadult and adult tortoises each in the resident and control population for monitoring. Although these tortoises from the translocated population may be captured multiple times over the course of the post-translocation monitoring effort, we do not anticipate injury or mortality of these individuals due to post-translocation monitoring.
- Take in the form of trapping, capture, or collection of up to sixty (60) subadult and adult tortoises (up to 20 translocatees from the plant site, up to 20 resident tortoises at the recipient site, and up to 20 tortoises at the control site) will be taken, in the form of capture or collection, for the purposes of blood draw to assess disease prevalence. Although such an invasive procedure presents some likelihood that individuals could be injured or killed, we do not anticipate that blood collection will result in the mortality of any individuals because blood draw will be conducted by Service-approved Biologists, following Service-approved methods. If any tortoises are directly injured or killed for the purposes of drawing blood, the take threshold will be exceeded.

IMPACT OF THE INCIDENTAL TAKING ON THE SPECIES

In the accompanying biological opinion, the Service determined that these levels of anticipated take are not likely to result in jeopardy or adversely affect the recovery of the tortoise.

REASONABLE AND PRUDENT MEASURES

The BLM and applicant are implementing conservation measures for this project as part of the proposed action to minimize the taking of desert tortoises. The Service's evaluation in the biological opinion includes consideration of the conservation measures developed by the BLM and applicant to reduce the adverse effects of the proposed project on this species. Any subsequent changes in the conservation measures proposed by BLM or applicant or in the conditions under which these activities currently occur may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 *Code of Federal Regulations* § 402.16. These reasonable and prudent measures are intended to supplement the protective measures that were proposed by BLM and applicant as part of the proposed action, and are necessary and appropriate to minimize the impact of the taking on desert tortoises.

- The applicant shall monitor and report the level of incidental take of desert tortoises to the CFWO throughout the life of the project and report on the effectiveness of the project minimization measures to reduce the impact of incidental take of tortoises.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the BLM and applicant, and all agents/contractors must comply with the following terms and conditions, which implement the reasonable and prudent measures described above, and are intended to minimize the impact of the incidental taking. These terms and conditions are non-discretionary.

The following term and condition implements the reasonable and prudent measure above.

- a) The applicant shall prepare and provide to the Service and BLM an annual report by December 31 of each year of the project. The annual report shall document but not be limited to, the following:
 - Compliance with project-specifications and conservation measures outlined in this biological opinion, including BIO-1 thru BIO-14, BIO-27, and BIO-28 outlined in the CEC's Commission Decision on the BSPP project (CEC 2010b), as they relate specifically to tortoises.
 - Any activities determined by the Designated Biologist or Biological Monitors to be out of compliance with project-specifications and conservation measures outlined in this biological opinion and the corrective measures implemented to bring the project back into compliance.

- The total amount and location of tortoise habitat disturbed by construction and O&M activities during the reporting year.
- The number and location of tortoises killed or injured during project construction or O&M activities during the reporting year and a description of the circumstances leading to the death or injury of individuals of the species.
- Activities conducted under the Desert Tortoise Relocation/Translocation Plan (BIO-10) during the reporting year, including but not limited to, the number and location of tortoise eggs, hatchlings, juveniles, subadults, or adults located during project activities and relocated or translocated during preconstruction, construction, and/or O&M activities during the reporting year and a detailed description of the relocation/translocation activities, and a detailed description of monitoring activities conducted at the recipient and control sites during the reporting year.

If more than 20 adult tortoises, or any eggs, hatchlings, juveniles or subadults are found within the project footprint, the Designated Biologist shall immediately report the observation to the CFWO, prior to any relocation/ translocation activities. The CFWO will review the information to determine its consistency with the effects analysis above and if relocation/translocation of additional tortoises would benefit their survival and be consistent with our assumptions in the biological opinion, and if reinitiation of consultation is warranted.

- Activities conducted under the Raven Management Plan (BIO-13) during the reporting year, including but not limited to, the results of raven nest monitoring and removal of raven nests and offending ravens.
- Activities conducted under the Weed Management Plan (BIO-14), including but not limited to, invasive plant species control activities conducted during construction or O&M activities in the project disturbance area during the reporting year and the status of control activities conducted the previous year.

Disposition of Sick, Injured, or Dead Specimens

The CFWO is to be notified immediately at (760) 431-9440 if any desert tortoises are found sick, injured, or dead in the action area. Immediate notification means verbal (if possible) and written notice within 1 workday, and must include the date, time, and location of the carcass, and any other pertinent information. Care must be taken in handling sick or injured individuals to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state.

The CFWO should also be notified immediately at (760) 431-9440 if any endangered or threatened species not addressed in this biological opinion is found dead or injured in the project footprint during the life of the project. The same reporting requirements also shall pertain to any healthy individual(s) of any threatened or endangered species found in the action area and handled to remove the animal to a more secure location.

Reporting Requirements

Please refer to the “Terms and Conditions” section above for details on reporting procedures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that the BLM work with the applicant and Service to determine if the translocated desert tortoises associated with the translocated populations can be used to answer additional research questions related to translocation or desert tortoise biology.
2. We recommend that the BLM amend the California Desert Conservation Area Plan to prohibit additional renewable energy development (e.g., solar energy facilities, wind development) within the unused portion of the 3,804-ha (9,400-ac) ROW granted for construction and O&M of the BSPP project, particularly within the proposed McCoy Mountains recipient site. We offer this recommendation because this area is likely to be used as a recipient site for translocated desert tortoises from the BSPP project. Additionally, we are aware of two other ROW applications filed with the BLM for development of large-scale solar facilities directly north of the BSPP project (NextEra’s McCoy and EnXco’s McCoy Soleil projects). Given these proposed projects, the potential exists that desert tortoise habitat adjacent to the McCoy Mountains may be disturbed and fragmented to the extent that desert tortoises and other wildlife populations in the area may be severely compromised.
3. We recommend that the BLM amend the California Desert Conservation Area Plan to prohibit additional renewable energy development (e.g., solar energy facilities, wind development) within the upper bajadas (mapped as “dissected fans” on the NECO Map 3-4, Landforms) in the mountains of northeastern Riverside County. We offer this recommendation because this action would protect the higher quality tortoise habitat in the CDCA plan area. At a minimum, we recommend that BLM prohibit or limit development in the upper bajadas of the McCoy Mountains (mapped as “dissected fans” on the NECO Map 3-4, Landforms) to protect the higher quality tortoise habitat in the region and prevent

isolating the proposed McCoy Mountains recipient site in light of potential future large-scale solar development.

4. We recommend that the BLM ensure that the gen-tie transmission line associated with the BSPP project also is adequate to provide for transmission of electricity from the two other solar projects proposed for construction directly north of the BSPP project: NextEra's McCoy and EnXco's McCoy Soleil projects. Use of a shared gen-tie transmission line through the BSPP project footprint will reduce, and perhaps negate, the need for additional gen-tie transmission lines to the west or east of the BSPP site and thereby, reduce additional destruction/degradation of desert tortoise habitat in these adjacent areas, including the McCoy Mountains recipient site where tortoises translocated from the project footprint may be released.

REINITIATION NOTICE

This concludes formal consultation on the proposed project for the desert tortoise. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding this document, please contact Tannika Engelhard at the Carlsbad Fish and Wildlife Office at (760) 431-9440, extension 202.

Attachments:

- Table 1 Estimated acreage of desert tortoise habitat permanently and temporarily impacted by construction of the proposed Blythe Solar Power Project.
- Figure 1 Blythe Solar Power Project Location
- Figure 2 Blythe Solar Power Project Site Plan

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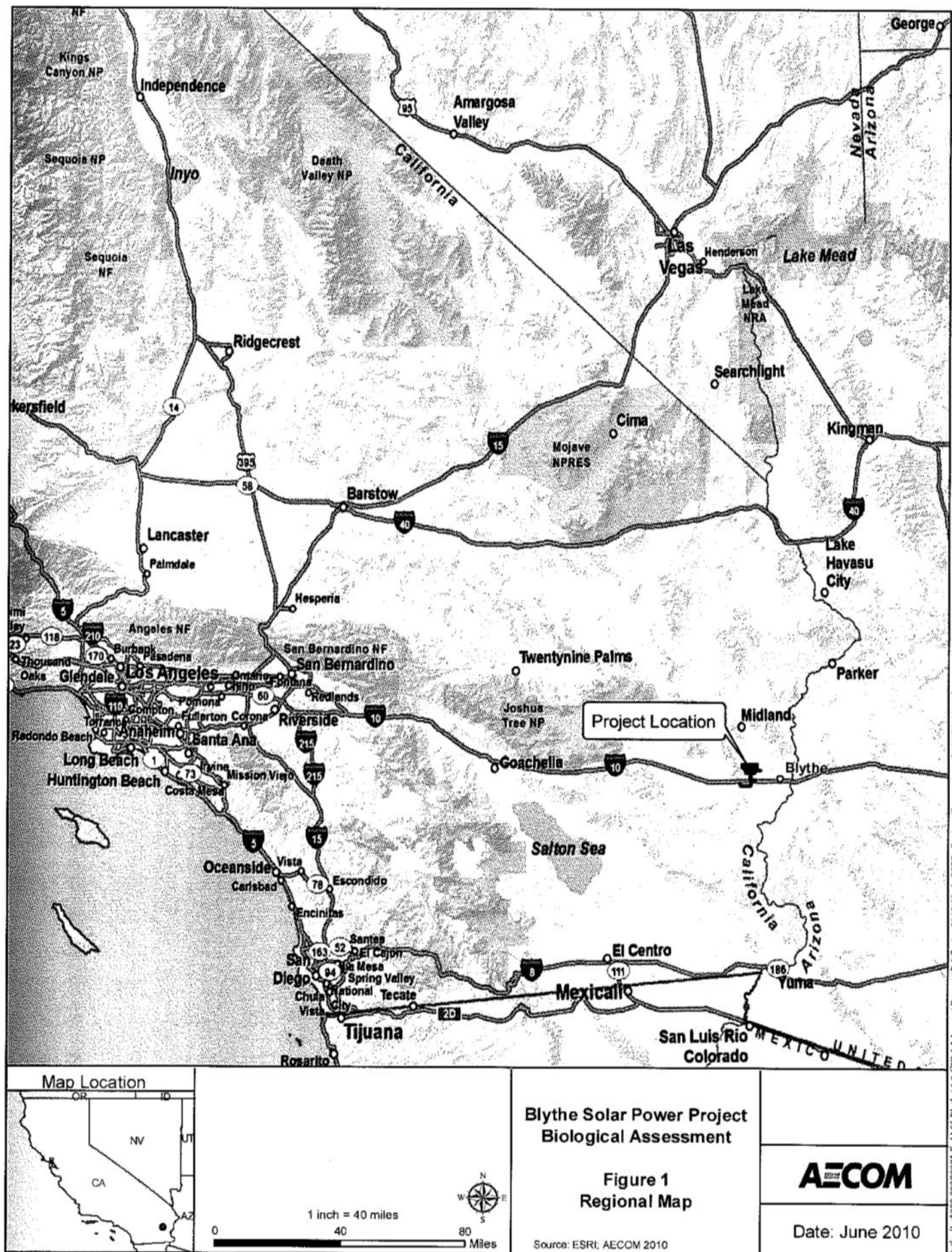


Table 1. Estimated acres (ac) and hectares (ha) of desert tortoise habitat that will be permanently and temporarily impacted by construction of the proposed Blythe Solar Power Project.

Vegetation Communities and Other Cover Types	Power Plant Site ¹	Access Roads ²	Gen-Tie Transmission line ³	Shared Gen-Tie/Utility Corridor ⁴	Temporary Construction Power ⁵	Total ⁶
Creosote Bush/Big Galleta Grass Association	365.13	0	4.78	0.91	0	371
Desert Dry Wash Woodland	197.08	10.76	3.78	1.32	0	213
Unvegetated Ephemeral Dry Wash	8.55	0	0	0.11	0	9
Creosote Scrub Brush	6,268.50	1.40	28.65	65.21	0.83	6,365
Total ⁶	6,839 ac (2,768) ha	12 ac (5 ha)	37 ac (15 ha)	68 ac (28 ha)	1 ac (0.40 ha)	6,958 ac (2,816 ha)

¹ Calculated as the total amount of habitat that will be permanently and temporarily impacted by construction of the power plant site, perimeter security fence, and rerouted drainage channels outside of the perimeter security fence.

² Calculated as the total amount of habitat that will be permanently and temporarily impacted due to improvements to Black Rock Road and construction of the new access road to the power plant site.

³ Calculated as the total amount of habitat that will be permanently and temporarily impacted within the gen-tie transmission line alignment due to construction of the transmission line (including crossing structures, pole pads, crane pads, pulling/splicing sites, spur roads, and access road) outside of the shared gen-tie utility corridor.

⁴ Calculated as the total amount of habitat that will be permanently and temporarily impacted within the shared gen-tie and utility corridor due to construction of the gen-tie transmission line and buried telecommunications and natural gas lines (including crossing structures, pole pads, crane pads, and pulling/splicing sites).

⁵ Calculated as the total amount of habitat that will be permanently and temporarily impacted due to construction of the temporary construction power line (either buried or overhead) up to the fenced power plant site (including trenching area, crossing structures, pole pads, crane pads, pulling/splicing sites, and new access road).

⁶ Totals rounded to the nearest whole number.

**PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE CALIFORNIA ENERGY COMMISSION,
PALO VERDE SOLAR 1 LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE BLYTHE SOLAR POWER PROJECT- RIVERSIDE
COUNTY, CALIFORNIA**

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INTRODUCTION

The purpose of this Programmatic Agreement (Agreement) is to provide the processes whereby the Bureau of Land Management (BLM), in consultation with the California State Historic Preservation Officer (SHPO), Advisory Council on Historic Preservation (ACHP), Indian Tribes and other consulting parties, take into account the effects of the Palo Verde Solar I, LLC - Solar Millennium Blythe Project on historic properties and provide the ACHP a reasonable opportunity to comment as required by Section 106 of the National Historic Preservation Act (Section 106). The California Energy Commission (Energy Commission) intends to use this Agreement to satisfy the requirements of the California Environmental Quality Act.

The BLM, in consultation with the consulting parties to this Agreement, will consider and incorporate within the Section 106 consultation process the performance standards (desired future condition), range of mitigation measures and commitment to mitigate, and monitoring requirements of the Energy Commission's Staff Assessment for the Palo Verde Solar I, LLC - Solar Millennium Blythe Project (Application for Certification 09-AFC-6). The BLM and the Energy Commission will endeavor to make the historic properties treatment and management provisions of this Agreement as it applies to the project as consistent as possible with the objectives and terms of the Staff Assessment within the context of the consultation process required by Section 106.

Government agencies, consulting parties, and the public identified in the scoping and public notification process for the Staff Assessment and Environmental Impact Statement were advised in the Supplemental Staff Assessment and Final Environmental Impact Statement (FEIS) that historic properties associated with the Palo Verde Solar I, LLC - Solar Millennium Blythe Project would be treated consistent with the mitigation measures or performance standards identified in the Staff Assessment and adopted by the Energy Commission, and consistent with the stipulations of this Agreement. A proposed final draft of this Agreement was circulated for public comment as an attachment to the FEIS. The Signatories have consulted with the Invited Signatories, Concurring Parties and Tribes on this Agreement, and have taken into consideration the views and comments received regarding the draft Agreement in preparing this final Agreement.

Appendices to this Agreement provide additional information about the Project or guidance. The Appendices can also include examples or drafts of planning documents that may be required and tiered from this Agreement and for which Section 106 consultation will continue to develop a final version.

**PROGRAMMATIC AGREEMENT
AMONG THE
BUREAU OF LAND MANAGEMENT-CALIFORNIA,
THE CALIFORNIA ENERGY COMMISSION,
PALO VERDE SOLAR 1 LLC, AND
THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE BLYTHE SOLAR POWER PROJECT- RIVERSIDE
COUNTY, CALIFORNIA**

WHEREAS, Palo Verde Solar I, LLC (Applicant) has applied for a right of way (ROW) grant on public lands managed by the Bureau of Land Management (BLM) and has submitted a Plan of Development (POD) to construct, operate and maintain a solar energy electrical generating plant (hereinafter referred to as the Blythe Solar Power Project), including construction of four independent 250-megawatt (MW) units (Units #1, #2, #3, and #4), a 230 kilovolt (kV) transmission line, a natural gas pipeline, paved arterial roads and parking areas, unpaved perimeter roads, and unpaved access routes, laydown and staging areas, and support facilities, and infrastructure which are more fully described in Appendix D: Project Description and illustrated in Appendix E: Project Maps and Illustrations attached hereto and incorporated by this reference; and

WHEREAS, the BLM has determined that since it requires the issuance of a ROW to the Palo Verde Solar I, LLC (PVSI), in accordance with the Federal Land Policy and Management Act (FLPMA) (Public Law 940-579; 43 U.S.C 1701), the Project is an Undertaking subject to Section 106 of the National Historic Preservation Act (NHPA), 16 USC 470(f), and its implementing regulations under 36 CFR Part 800 (2004) (Section 106); and

WHEREAS, in August 2005, the United States Congress enacted the Energy Policy Act of 2005 (Public Law 109-58). In Section 211 of that Act, Congress directed that the Secretary of the Interior (“Secretary”) should, before the end of the 10-year period beginning on the date of enactment of the Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity; and

WHEREAS, by Secretarial Order No. 3285 issued March 11, 2009, the Secretary stated as policy that encouraging the production, development, and delivery of renewable energy is one of the Department of Interior’s (DOI) highest priorities and that agencies and bureaus within the DOI will work collaboratively with each other, and with other federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the Nation’s water, wildlife, and other natural resources; and

WHEREAS, the BLM, in consultation with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP), pursuant to 36 C.F.R.

800.4(b)(2), seek to phase final identification and evaluation of historic properties for the project pursuant to 36 C.F.R. 800.4(b)(2) because the alternatives under consideration consist of large land areas. In accordance with the requirements of 36 C.F.R. 800.4(b)(2), the BLM is preparing this Agreement to set forth the process for completing phased compliance with Section 106 of the NHPA; and

WHEREAS, the BLM has consulted with the SHPO and the ACHP, pursuant to 36 C.F.R. 800.14(b)(3) and following the procedures outlined at 36 C.F.R. 800.6, and are in the process of considering alternatives for the Project that have the potential to adversely affect historic properties and may reach a decision regarding approval of the ROW for the Project before the effects of the Project's implementation on historic properties have been fully determined, the BLM chooses to continue its assessment of the undertaking's potential adverse effect and resolve any such effect through the implementation of this Agreement; and

WHEREAS, in accordance with regulations at 36 CFR 800.14(b)(3) BLM has notified and invited the ACHP per 36 CFR 800.6(a)(1)(C) to participate in consultation to resolve the potential effects of the Undertaking on Historic Properties, and as per their letter dated March 11, 2010, the ACHP has elected not to participate in this Agreement; and

WHEREAS, the California Energy Commission (Energy Commission) may certify the Project located on both public and private lands pursuant to Section 25519, subsection (c) of California's Warren-Alquist Act of 1974 and, for the purposes of consistency, proposes to manage all historical resources in accordance with the stipulations of this Agreement, and has participated in this consultation and is an Invited Signatory to this Agreement; and

WHEREAS, the BLM has prepared the *Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment, Blythe Solar Power Project (2010)* and the Energy Commission has prepared the *Supplemental Staff Assessment Blythe Solar Power Project, Application for Certification (09-AFC-6) Riverside County (2010)* to identify the Project alternatives for purposes of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and have comparatively examined the relative effects of the alternatives on known historic properties; and

WHEREAS, the Applicant has participated in this consultation per 36 C.F.R. 800.2(c)(4) and, will be the entity to whom the BLM may grant a ROW related to Project activities, and has the responsibility for carrying out the specific terms of this Agreement under the oversight of the BLM, and therefore is an Invited Signatory to this Agreement; and

WHEREAS, pursuant to the special relationship between the Federal government and Indian tribes, and Section 101(d)(6)(B) of the NHPA, 36 C.F.R. 800.2(c)(2)(ii), the American Indian Religious Freedom Act (AIRFA), Executive Order 13175, and Section 3(c) of the Native American Graves Protection and Repatriation Act (NAGPRA), the BLM is responsible for government-to-government consultation with federally recognized Indian Tribes and is the lead federal agency for all Native American consultation and coordination; and

WHEREAS, the BLM has formally notified and invited Federally recognized tribes including the Morongo Band of Mission Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the San Manuel Band of Mission Indians, the Torres-Martinez Desert Cahuilla Indians, the Fort Mojave Indian Tribe, the Twenty-Nine Palms Band of Mission Indians, the Agua Caliente Band of Cahuilla Indians, the Augustine Band of Mission Indians, the Cabazon Band of Mission Indians, the Chemehuevi Indian Tribe, and the Colorado River Indian Tribes (Tribes) to consult on this Project and participate in this Agreement as a Concurring Party. BLM has documented its efforts to consult with the Tribes and a summary is provided in Appendix I to this Agreement; and

WHEREAS, through consultation, Tribes have expressed their views and concerns about the importance and sensitivity of specific cultural resources to which they attach religious and cultural significance. Tribes have expressed the connection of these resources to the broader cultural landscape within and near the Project area; and

WHEREAS, the BLM shall continue to consult with the Tribes throughout the implementation of this Agreement regarding the adverse effects to historic properties to which they attach religious and cultural significance. BLM will carry out its responsibilities to consult with Tribes that request such consultation with the further understanding that, notwithstanding any decision by these Tribes to decline concurrence, BLM shall continue to consult with these Tribes throughout the implementation of this Agreement; and

WHEREAS, the BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this Project including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geomorphological studies to identify historic properties that might be located within the APE; and

WHEREAS, the BLM has defined the APE in which the Project may directly or indirectly adversely affect historic properties pursuant to the definition of APE at 36 C.F.R. 800.16(d). The basis of the APE is described in greater detail in Stipulation II of this Agreement; and

WHEREAS, the Applicant has retained an archaeological consultant to complete all of the investigations necessary to identify and evaluate the National Register of Historic Places (NRHP) eligibility for cultural resources located within the APE for both direct and indirect effects. The consultant has completed a review of the existing historic, archaeological and ethnographic literature and records to ascertain the presence of known and recorded cultural resources in the APE and buffered study area; conducted an intensive field survey for 9,400 acres of land, including all of the lands identified in APE for direct effects for all Project alternatives; and completed intensive field surveys for alternatives on lands that are no longer part of the Project. The consultant has also submitted a cultural resources inventory report *Draft Final Class III Survey Report, for the Proposed Blythe Solar Power Project Riverside County, California*, prepared by AECOM, January 2010) that presents the results of identification efforts and was

submitted to the BLM and Energy Commission. The BLM has provided the report to the interested parties and Tribes for review and comment; and

NOW, THEREFORE, the BLM and SHPO (hereinafter “Signatories”) and the Energy Commission and Applicant (hereinafter “Invited Signatories”), agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the adverse effect of the undertaking on historic properties, resolve such adverse effects through the process set forth in this Agreement, and provide the ACHP with a reasonable opportunity to comment in compliance with Section 106.

STIPULATIONS

The BLM shall ensure that the following measures are implemented:

I. DEFINITIONS

The definitions found at 36 C.F.R. 800.16 and in this section apply throughout this Agreement except where another definition is offered in this Agreement.

- a) **Area of Potential Effect.** The APE is defined as the total geographic area or areas within which the Project may directly or indirectly cause alterations in the character or use of historic properties per 36 C.F.R. 800.16(d). The APE is influenced by the scale and nature of an undertaking and includes those areas which could be affected by a project prior to, during and after construction.
- b) **Concurring Parties.** Collectively refers to consulting parties with a demonstrated interest in the Project, who agree, through their signature, with the terms of this Agreement. Concurring Parties may propose amendments to this Agreement.
- c) **Cultural Resource.** A cultural resource is an object or definite location of human activity, occupation, use, or significance identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and locations of traditional cultural or religious importance to specified social and/or culture groups. Cultural resources include the entire spectrum of objects and places, from artifacts to cultural landscapes, without regard to eligibility for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).
- d) **Consulting Parties.** Collectively refers to the Signatories, Invited Signatories and Concurring Parties who have signed this Agreement.
- e) **Historic Properties.** Properties (cultural resources) that are included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior and per the NRHP eligibility criteria at 36 CFR60.4 and may include any prehistoric or historic district, site, building, structure, traditional cultural property or object. This term includes artifacts, records, and remains that are related to and located within such properties. The term

includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the NRHP criteria. The term “eligible for inclusion in the NRHP” refers both to properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.

- f) **Historical Resources.** Historical resources are cultural resources that meet the criteria for listing on the CRHR as provided at California Code of Regulations Title 14, Chapter 11.5, Section 4850 and may include, but are not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.
- g) **Invited Signatories.** Invited Signatories are parties that have specific responsibilities as defined in this Agreement. Those Invited Signatories who actually sign this Agreement have the same rights with regard to seeking amendment or termination of this Agreement as the Signatory Parties, but whose signatures are not required for execution of the Agreement. Invited Signatories to this Agreement are the Energy Commission and Applicant.
- h) **Lands Administered by the U.S. Department of Interior, Bureau of Land Management (BLM)** means any federal lands under the administrative authority of the BLM.
- i) **Literature Review.** A literature review is one component of a BLM class I inventory, as defined in BLM Manual Guidance 8100.21(A)(1), and is a professionally prepared study that includes a compilation and analysis of all reasonably available cultural resource data and literature, and a management-focused, interpretive, narrative overview, and synthesis of the data. The overview may also define regional research questions and treatment options.
- j) **Records Search.** A records search is one component of a BLM class I inventory and an important element of a literature review. A records search is the process of obtaining existing cultural resource data from published and unpublished documents, BLM cultural resource inventory records, institutional site files, State and national registers, interviews, and other information sources.
- k) **Signatories.** Signatories are parties that have the sole authority to execute, amend or terminate this Agreement. Signatories to this Agreement are the BLM and SHPO.
- l) **Traditional Cultural Property.** A traditional cultural property is defined generally as a property that is important to a living group or community because of its association with cultural practices or beliefs that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. It is a place, such as a traditional gathering area, prayer site, or sacred/ceremonial location, that may figure in important community traditions. These places may or may not contain features, artifacts, or physical evidence, and are usually identified through consultation. A traditional cultural property may be eligible for inclusion in the NRHP and the CRHR.
- m) **Tribes.** The federally recognized Indian Tribes that BLM is consulting with on this Project.
- n) **Tribal organizations.** The non Federally recognized Indian tribes and Native American organizations that BLM is consulting with on this Project.

- o) **Windshield Survey.** A windshield survey is the driving or walking of surveyors along streets and roads of a community in order to observe and record the buildings, structures, and landscape characteristics seen from those vantage points. A windshield survey is a method commonly utilized in reconnaissance surveys to identify built-environment resources, such as buildings, objects, and structures.

II. AREA OF POTENTIAL EFFECTS

- a) The BLM has defined the APE for the Project based on both the direct and indirect impacts, to be a 15 mile radius around the block area of the Project. Below is a discussion about the APE and the methodology used to so define, and the survey methodology utilized within each APE. See Appendix E for APE map and Project illustrations.
- i) The area within which historic properties could sustain direct effects as a result of the Project is defined to include:
 - (1) The block area of installation of the proposed Phase I and Phase II components of the Project, which includes approximately 9,400 acres of public lands. The area is generally bounded by Interstate 10 on the south, An electrical transmission line corridor runs north-south, two miles to the east, the McCoy Mountains lie to the west, and McCoy Wash lies to the north. Per Energy Commission requirements, a 200-foot wide buffer around the APE was included in the survey for cultural resources within the block area. This buffer is deemed sufficient to include any Project-related activity conducted near the edge of the Project footprint.
 - (2) All linear elements of the Project including:
 - (a) A 50-foot wide ROW for a new four-inch diameter natural gas line, extending for approximately 5 miles to connect the Blythe project to an existing Southern California Gas (SCG) pipeline situated south of I-10. The pipeline will be buried with a minimum of three feet of cover depending on location. The gas line route extends from an existing SCG line 1,800 feet south of I-10. A survey corridor for cultural resources for this linear element was established as a 50-foot wide buffer on either side of the center line (100-foot wide corridor) to allow for changes in the ROW to avoid cultural resources.
 - (b) A 30-foot wide ROW for temporary or permanent access roads required outside the plant footprint. The survey corridor for cultural resources for this linear element included a 50-foot wide buffer on either side of the center line (100-foot wide corridor) to allow for changes in the ROW to avoid cultural resources.
 - (c) A ROW for the 230 kV transmission line is approximately 120-feet wide and 10 miles long and extends from the Project area to the Southern California Edison (SCE) Colorado River Substation. The survey corridor for cultural resources for this linear element was established as a 150-foot wide buffer on

either side of the center line (300-foot wide corridor) to allow for changes in the ROW to avoid cultural resources.

- ii) The area within which historic properties could sustain indirect effects, including visual, auditory, atmospheric, and contextual, as a result of the Project includes:
 - (1) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that are identified through a review of existing literature and records search, information or records on file with the BLM or at the Eastern Information Center (EIC), interviews or discussions with local professional or historical societies and local experts in history or archaeology. For example, specific areas of concern or cultural resources that were identified include:
 - (a) The Desert Training Center California-Arizona Maneuver Area (DTC/C-AMA).
 - (b) Cultural resources in the Mule Mountains Area of Critical Environmental Concern (ACEC).
 - (c) The Bradshaw Trail and numerous, wide-spread, previously recorded, prehistoric trail segments.
 - (d) Historic properties or cultural resources identified through archaeological or other field investigations for this Project that, as a result of Project redesign to avoid direct effects to cultural resources, are no longer within the Project area.
 - (2) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that are included in the Native American Heritage Commission Sacred Lands Files, identified through a literature review or records search, or identified by a Tribe or Tribal organization, through consultation as having religious or cultural significance. Specific places or cultural resources that have been identified through tribal consultation include:
 - (3) Historic properties or cultural resources within a 15 mile radius of the direct effects APE that have been identified by a consulting party, organization, governmental entity, or individual through consultation or the public commenting processes as having significance or being a resource of concern. Areas identified through consultation to date include:
 - (a) The Bradshaw Trail
 - (b) Specific areas of concern or cultural resources have been identified both south and west of the project location and include:
 - (i) Black Rock (a geological feature)
 - (ii) Mule Mountains ACEC

(iii) McCoy Spring

(4) Built-environment resources located within one-half mile of the Project footprint,

(a) whose historic settings could be adversely affected. Specific areas of concern or cultural resources have been identified both south and north of the Project location and include:

(i) Blythe Airport

(ii) Interstate Highway 10.

(iii) The Atchison, Topeka and Santa Fe Railroad

(iv) A segment of the Parker Headgate Rock-Blythe 161KV transmission line

(b) On private property, historic properties or cultural resources within one-half mile of the direct effects APE that are identified through surveys, where access was granted, and windshield surveys, where access was not granted.

b) The APE, as currently defined, encompasses an area sufficient to accommodate all of the proposed and alternative Project components under consideration as of the date of the execution of this Agreement. If it is determined in the future that the Project may directly or indirectly affect historic properties located outside the currently defined APE, then the BLM, in consultation with the Signatories, Invited Signatories, and Concurring Parties, shall modify the APE using the following process:

i) Any consulting party to this Agreement may propose that the APE established herein be modified. The BLM shall notify the other Signatories, Invited Signatories, and Concurring Parties of the proposal and consult for no more than 15 days to reach agreement on the proposal.

ii) If the Signatories agree to the proposal, then the BLM will prepare a description and a map of the modification to which the Signatories agree. The BLM will keep copies of the description and the map on file for its administrative record and distribute copies of each to the other Signatories, Invited Signatories and Concurring Parties within 30 days of the day upon which agreement was reached.

iii) Upon agreeing to a modification to the APE that adds a new geographic area, the BLM shall follow the processes set forth in Stipulation III to identify and evaluate historic properties in the new APE, assess the effects of the undertaking on any historic properties in the new APE, and provide for the resolution of any adverse effects to such properties, known or subsequently discovered, per Stipulations IV and V.

- iv) If the Signatories cannot agree to a proposal for the modification of the APE, then they will resolve the dispute in accordance with Stipulation XII.

III. IDENTIFICATION AND EVALUATION

- a) The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including, but not limited to, a literature review, records search, cultural resources surveys, ethnographic studies, and geo-morphological studies to identify historic properties that might be located within applicable specific APE.
 - i) The Applicant has prepared and submitted a cultural resources inventory report (AECOM January 2010) to the BLM and the Energy Commission that presents the results of the Applicant's identification efforts. The report is currently under review by the BLM and Energy Commission to assess whether the report conforms with the field methodology and site description template required under BLM Fieldwork Authorization CA-660-66.24 09-10, Fieldwork Authorization CA-660-66.24 09-12, Fieldwork Authorization CA-660-66.24 10-02, and Fieldwork Authorization CA-660-66.24 10-04, and Energy Commission transaction number Data Requests Set 1, Part #1-260, Docket number 09-AFC-6.
 - ii) The BLM, in consultation with the Energy Commission, may require additional field investigations to be conducted by the Applicant to ensure the accuracy of site recordation and to provide additional information to support site evaluations and the assessment of effects. However, the BLM and Energy Commission, separately or together, have the right and the discretion, under this Agreement, to request additional field studies.
 - iii) The BLM is consulting with interested Tribes, Tribal organizations or tribal individuals regarding the identification of historic properties within the APE to which they attach religious or cultural significance and shall respond to any additional request to consult with Tribes, Tribal organizations or tribal individuals.
- b) The BLM shall make determinations of eligibility consistent with 36 C.F.R. 800.4 prior to the Record of Decision (ROD) to the extent practicable, and will make any remaining determinations as soon as possible afterwards, on those cultural resources within the APE, and make the agency's determinations available to the consulting parties, Tribes and the public for a 45 day review and comment period.
 - i) The BLM will respond to any request for consultation on its determinations from a consulting party to this Agreement or a Tribe.
 - ii) A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 45 day comment period.

- iii) The BLM will forward to the SHPO all comments regarding its determinations received during the 45 day comment period.
- iv) After the 45 day comment period, the BLM may request SHPO concurrence for those determinations and findings for which there is no disagreement.
 - (1) SHPO will have 15 days in which to comment.
 - (2) Should SHPO not comment, BLM shall document that SHPO has elected not to comment and may proceed in accordance with its proposed determinations.
 - (3) If the BLM and SHPO disagree on a determination, BLM shall seek a determination from the Keeper of the National Register.
- v) Where a consulting party or Tribe objects to the BLM's determination for a specific cultural resource within the 45 day review period, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its determinations.
 - (1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at 36 C.F.R. 800.4(c)(2).
 - (2) The BLM may proceed with determinations for all cultural resources not subject to objection.
- vi) The BLM and the Energy Commission shall coordinate to the extent feasible and practicable on determinations of eligibility for the NRHP and CRHR.
- vii) If adverse effects to a cultural resource can be avoided, the BLM may choose to prescribe avoidance without making an eligibility determination of that cultural resource.
- c) In only the following circumstances, the BLM may defer the final evaluation of significance of cultural resources
 - i) where BLM has determined significance is limited to scientific, prehistoric, historic or archaeological data and where testing or limited excavation is recommended to determine whether a site would be eligible under Criterion D for inclusion on the NRHP.
 - ii) where additional evaluation efforts are required to assess the scientific, prehistoric, historic or archaeological data values of a property, the BLM and Energy Commission shall ensure that such properties located within the APE are evaluated for the NRHP and CRHR pursuant to Stipulation III and the guidelines provided in Appendix A of this Agreement.

IV. ASSESSMENT OF EFFECTS

- a) The BLM shall make determinations of effect consistent with 36 C.F.R. 800.4(d) and identify the type of adverse effect for each affected property in accordance with the criteria established in 36 C.F.R. 800.5(a)(1) and (2)(i)-(vii) prior to the ROD to the extent practicable on those cultural resources within the APE that are listed on or determined eligible for the NRHP, and provide the SHPO, Tribes, and the consulting parties with the results of this finding.
- iii) The Applicant shall submit to the BLM:
 - (1) a list of the cultural resources that the Project appears likely to affect.
 - (2) a list of the cultural resources that the Project has no potential to affect.
 - (3) a list of the cultural resources that the Applicant commits to avoiding through the implementation of formal avoidance measures.
 - (4) a list of the cultural resources that cannot be avoided and will need to be evaluated and/or treated by implementing the prescriptions of the Historic Properties Treatment Plan (HPTP) required in Stipulation V of the Agreement.
- b) The BLM shall issue a finding of effect, based on the BLM's own evaluation of the Applicant's analysis, and provide Tribes and consulting parties to this Agreement an opportunity to review the BLM's finding and the analysis to support its finding.
- i) The BLM shall attempt to make its determinations and findings to the extent possible in a single consolidated decision and may submit findings of effect to the SHPO concurrently with its determinations of eligibility per Stipulation III(b), otherwise, the consulting parties shall have 30 days to comment on BLM findings of effect.
- ii) The BLM will forward to the SHPO all comments regarding its findings of effect received during the comment period.
- iii) After the comment period, the BLM may request SHPO concurrence for those findings for which there is no disagreement.
 - (1) SHPO will have 15 days in which to comment.
 - (2) Should SHPO not comment, BLM shall document that SHPO has elected not to comment and may proceed in accordance with its proposed determinations.
 - (3) Should SHPO disagree with BLM's finding, they shall continue to consult to resolve the agreement within a 30 day review period.
 - (4) If the SHPO and BLM are not able to resolve the disagreement within the review period, BLM will request ACHP review of the finding pursuant to 36 C.F.R. 800.5(c)(3)(i).

- iv) Where a consulting party or Tribe objects to the BLM's findings, the BLM shall consult with the objecting party and the SHPO regarding the nature of the objection and reconsider its findings.

- (1) If the objection is not resolved, the BLM shall further consult with the SHPO and follow the processes provided at Stipulation IV(b)(iii).

- c) The Applicant, at the direction of the BLM and Energy Commission, may prepare the analysis required above in phases that correspond to the proposed sequence of development for the Project, provided that analyses are ultimately prepared for the entirety of the APE.
- d) If adverse effects to such cultural resources will not be avoided, the BLM must resolve the adverse effect by implementing the prescriptions of the HPTP. When developing these HPTPs, BLM does not need to consider those cultural resources that it has evaluated and determined are not eligible for inclusion in the NRHP consistent with the process under 36 C.F.R. 800.4.
- e) Where additional identification and evaluation efforts are required due to changes in the project and the APE, the BLM and Energy Commission shall ensure that cultural resources located within the APE are identified and evaluated for the NRHP and CRHR pursuant to Stipulation III of this Agreement.

V. TREATMENT AND MANAGEMENT OF HISTORIC PROPERTIES

- a) BLM will ensure the resolution of identified adverse effects to historic properties through avoidance, minimization, or mitigation and shall be described in one or more HPTP(s) that shall be written and finalized as described below and included in Appendix B.
- i) The BLM and Applicant, in consultation with the consulting parties and Tribes, shall develop a draft HPTP(s), prior to the ROD if feasible, or as soon as possible thereafter.
 - (1) Prior to the issuance of any Notice to Proceed by the BLM to initiate the Project or any component of it that may affect historic properties, the Applicant shall develop and submit to the BLM one or more HPTPs for the BLM's approval.
 - (2) The HPTP(s) will be implemented after the ROW is granted by the BLM and prior to the issuance of a Notice to Proceed for construction in those portions of the Project addressed by the HPTP. The process for developing the HPTPs is further described below in this stipulation.
 - (3) The BLM may authorize the phased implementation of the HPTP(s) (per Stipulation X), or if appropriate, the development of HPTPs for individual cultural resources, or HPTPs that are related to specific issues or geography.

- ii) The BLM and Energy Commission, consistent with the guidelines provided in Appendix B(2), shall make every effort within the legal limits imposed on each party to incorporate into the Historic Properties Management Plan (HPMP) and any HPTP the intent of the treatment or mitigation measures in the Energy Commission's Conditions of Certification and BLM's ROD. The purpose of this effort is to evidence that due consideration of the intent inherent in the Energy Commission's Conditions of Certification were fully considered and incorporated when possible. If the BLM and Energy Commission cannot agree to proposed treatment measures, then they will resolve the dispute in accordance with Stipulation XII(c)(iii).
- iii) The BLM shall submit the HPTP(s) to the consulting parties and Tribes for a 30-day review period. BLM will consider timely comments when finalizing the HPTP(s). A consulting party may provide its comments directly to the SHPO with a copy to the BLM within the 30-day comment period. The BLM will forward to the SHPO all comments regarding the HPTP(s) received during the comment period.
 - (1) Where an HPTP specifically addresses treatment for adverse effects to historic properties to which Tribes attach religious or cultural significance, the BLM shall submit the HPTP to the Tribes and seek their views and comments through consultation, regardless of the status of a Tribe as a Concurring party to this Agreement. BLM shall consult with involved Tribe(s) on the distribution to other consulting parties of any HPTP(s) that specifically addresses treatment for adverse effects to historic properties to which the Tribes attach religious or cultural significance. Such a specific HPTP(s) shall be governed by the consultation time frames as provided in Section V(a)(iii) and (iv).
- iv) BLM will provide the consulting parties with written documentation indicating whether and how the draft HPTP will be modified in response to any timely comments received. If the HPTP is revised in response to comments received within that 30 day period, BLM shall submit the revised HPTP to all parties for a final, 15 day review period. BLM will consider any timely comments in finalizing the HPTP and provide the consulting parties and Tribes with a copy.
- b) BLM shall ensure that any HPTP developed in accordance with this Stipulation and Appendix B of this Agreement is completed and implemented. A finalized HPTP will be included in Appendix B of this Agreement
- c) BLM shall ensure that a HPMP, which provides for the protection and management of historic properties during the operational life and decommissioning of the solar energy power plant, is developed and implemented in accordance with Appendix C of this Agreement. A finalized HPMP will be included in Appendix C of this Agreement.
- d) An amendment to an HPTP or HPMP will go into effect when agreed to in writing by the Signatories. If the Signatories do not agree on an HPTP or HPMP amendment proposed

by another Signatory, the disagreement will be resolved pursuant to the procedures in Stipulation XII of this Agreement.

VI. DISCOVERIES AND UNANTICIPATED EFFECTS

- a) The BLM, in consultation with the consulting parties and Tribes, will seek to develop a monitoring and discovery plan for the Project pursuant to 36 C.F.R. 800.13(a)(1). A finalized monitoring and discovery plan will be included as Appendix J to this Agreement.
- b) If the BLM determines that implementation of the Project or a HPTP will affect a previously unidentified property that may be eligible for the NRHP, or affect a known historic property in an unanticipated manner, and a monitoring and discovery plan has not been finalized, the BLM, in coordination with the Energy Commission, will address the discovery or unanticipated effect by following the procedures at 36 C.F.R. 800.13(b)(3) where a process has not been yet been agreed to pursuant to 36 C.F.R. 800.13(a)(1).
- c) The BLM at its discretion may assume any discovered property to be eligible for inclusion in the NRHP. The BLM's compliance with this stipulation shall satisfy the requirements of 36 C.F.R. 800.13(a)(1).

VII. TREATMENT OF HUMAN REMAINS OF NATIVE AMERICAN ORIGIN

- a) The BLM shall ensure that any Native American burials and related items discovered on BLM administered lands during implementation of the terms of the Agreement will be treated in accordance with the requirements of the NAGPRA. The BLM will consult with concerned Tribes, Tribal organizations, or individuals in accordance with the requirements of Sections 3(c) and 3(d) of the NAGPRA and implementing regulations found at 43 C.F.R. Part 10 to address the treatment of Native American burials and related cultural items that may be discovered during implementation of this Agreement.
- b) In consultation with the Tribes, the BLM shall seek to develop a written plan of action pursuant to 43 C.F.R. 10.5(e) to manage the inadvertent discovery or intentional excavation of human remains, funerary objects, sacred objects, or objects of cultural patrimony. The finalized plan of action shall be included as Appendix K to this Agreement.
- c) The BLM shall ensure that Native American burials and related cultural items on private lands are treated in accordance with the applicable requirements of the California Public Resources Code at Sections 5097.98 and 5097.991, and of the California Health and Human Safety Code at Section 7050.5(c).

VIII. STANDARDS AND QUALIFICATIONS

- a) **PROFESSIONAL QUALIFICATIONS.** All actions prescribed by this Agreement that involve the identification, evaluation, analysis, recordation, treatment, monitoring, and

disposition of historic properties and that involve the reporting and documentation of such actions in the form of reports, forms or other records, shall be carried out by or under the direct supervision of a person or persons meeting, at a minimum, the Secretary of the Interior's Professional Qualifications Standards (PQS), as appropriate (48 Fed. Reg. 44739 dated September 29, 1983). However, nothing in this stipulation may be interpreted to preclude any party qualified under the terms of this paragraph from using the services of persons who do not meet the PQS, so long as the work of such persons is supervised by someone who meets the PQS. Tribal consultants who are available to perform monitoring duties are assigned and approved of by each Tribe.

- b) **DOCUMENTATION STANDARDS.** Reporting on and documenting the actions cited in this Agreement shall conform to every reasonable extent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Fed Reg. 44716-40 dated September 29, 1983), as well as, the BLM 8100 Manual, the California Office of Historic Preservation's Preservation Planning Bulletin Number 4(a) December 1989, Archaeological Resource Management Reports (ARMR): Recommended Contents and Format (ARMR Guidelines) for the Preparation and Review of Archaeological Reports, and any specific and applicable county or local requirements or report formats.
- c) **CURATION STANDARDS.** On BLM-administered land, all records and materials resulting from the actions cited in Stipulation III, IV, V and VI of this Agreement shall be curated in accordance with 36 C.F.R. Part 79, and the provisions of the NAGPRA, 43 C.F.R. Part 10, as applicable. To the extent permitted under Sections 5097.98 and 5097.991 of the California Public Resources Code, the materials and records resulting from the actions cited in Stipulations III through V of this Agreement for private lands shall be curated in accordance with 36 C.F.R. Part 79. The BLM will seek to have the materials retrieved from private lands donated through a written donation agreement. The BLM will attempt to have all collections curated at one local facility where possible unless otherwise agreed to by the consulting parties.

IX. REPORTING REQUIREMENTS

- a) Within twelve (12) months after the BLM, in consultation with the Energy Commission, has determined that all fieldwork required by Stipulations III through V has been completed, the BLM will ensure preparation and concurrent distribution to the consulting parties and Tribes a draft report that documents the results of implementing the requirements of each Stipulation. The consulting parties and Tribes will be afforded 45 days following receipt of each draft report to submit any written comments to the BLM. BLM will consider timely comments when making revisions to the draft report. A revised draft will be provided for a 14 day review. The BLM will consider timely comments in making final changes to the report. Thereafter, the BLM may issue the reports in final form and distribute these documents in accordance with Stipulation IX(b).

- b) Unless otherwise requested, the BLM will distribute one copy of final reports documenting the results of implementing the requirements of Stipulations III through V to each consulting party, Tribes and to the California Historical Resources Information System (CHRIS) Regional Information Center.
- c) The BLM shall ensure that any draft document that communicates, in lay terms, the results of implementing Stipulations III through V to members of the interested public is distributed for review and comment concurrently with and in the same manner as that prescribed for the draft technical report prescribed by Stipulation IX(a). If the draft document prescribed is a publication, such as a report or brochure, the BLM shall distribute the publication upon completion to the consulting parties and to other entities that the consulting parties may deem appropriate.

X. IMPLEMENTATION OF THE UNDERTAKING

- a) The BLM may authorize construction activities and manage the implementation of HPTP(s) in phases corresponding to the construction phases of the Project.
 - i) Upon approval of the HPTP(s) and implementation of the components of the HPTP(s) subject to determinations of compliance by the BLM for Phase I of the Project, BLM may authorize a Notice to Proceed for construction activities within the Phase I area only.
 - (1) An HPTP(s) for Phase II or other phases of the Project may be developed and implemented after approval of the HPTP(s) and issuance of the Notice to Proceed described above for the Phase 1 component.
- b) The BLM may authorize construction activities, including but not limited to those listed below, to proceed in specific geographic areas of the Project's APE where there are no historic properties; where there will be no adverse effect to historic properties; where a monitoring and discovery process or plan is in place per Stipulation VI(b); or where an HPTP(s) has been approved and initiated. Such construction activities may include:
 - i) demarcation, set up, and use of staging areas for the Project's construction,
 - ii) conduct of geotechnical boring investigations or other geophysical and engineering activities, and
 - iii) grading, constructing buildings, and installing parabolic solar trough assemblies.
- c) Initiation of any construction activities on federal lands shall not occur until after the BLM issues the ROD, ROW grant, and Notice(s) to Proceed.

XI. AMENDMENTS TO THE AGREEMENT

- a) This Agreement may be amended only upon written agreement of the Signatories.

- i) Upon receipt of a request to amend this Agreement, the BLM will immediately notify the other consulting parties and initiate a 30 day period to consult on the proposed amendment, whereupon all parties shall consult to consider such amendments.
- ii) If agreement to the amendment cannot be reached within the 30 day period, resolution of the issue may proceed by following the dispute resolution process in Stipulation XII.
- b) This Agreement may be amended when such an amendment is agreed to in writing by all Signatories.
- c) Amendments to this Agreement shall take effect on the dates that they are fully executed by the Signatories.
- d) Modifications, additions, or deletions to the appendices made as a result of continuing consultation among the consulting parties do not require the Agreement to be amended.

XII. DISPUTE RESOLUTION

- a) Should the Signatories or Invited Signatories object at any time to the manner in which the terms of this Agreement are implemented, the BLM will immediately notify the other Signatories and Invited Signatories and consult to resolve the objection.
- b) If the objection can be resolved within the consultation period, the BLM may authorize the disputed action to proceed in accordance with the terms of such resolution.
- c) If the objection cannot be resolved through such consultation, the BLM will forward all documentation relevant to the objection to the ACHP. Any comments provided by the ACHP within 30 days after its receipt of all relevant documentation will be taken into account by the BLM in reaching a final decision regarding the objection. The BLM will notify the other Signatories, Invited Signatories, and Concurring Parties in writing of its final decision within 14 days after it is rendered.
- d) The BLM's responsibility to carry out all other actions under this Agreement that are not the subject of the objection will remain unchanged.
- e) At any time during implementation of the terms of this Agreement, should an objection pertaining to the Agreement be raised by a Concurring Party or a member of the interested public, the BLM shall immediately notify the Signatories, Invited Signatories, and other Concurring Parties, consult with the SHPO about the objection, and take the objection into account. The other consulting parties may comment on the objection to the BLM. The BLM shall consult with the objecting party/parties for no more than 30 days. Within 14 days following closure of consultation, the BLM will render a final decision

regarding the objection and proceed accordingly after notifying all parties of its decision in writing. In reaching its final decision, the BLM will take into account all comments from the parties regarding the objection.

XIII. TERMINATION

- a) If any Signatory or Invited Signatory to this Agreement determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XI above. If within sixty (60) days an amendment cannot be reached;
 - i) a Signatory or Invited Signatory may terminate the Agreement upon written notification to the other Signatories and Invited Signatories.
- b) If the Agreement is terminated, and prior to work continuing on the Project, the BLM shall continue to follow the process provided at 36 C.F.R. 800.4 – 6 until (a) a new Agreement is executed pursuant to 36 C.F.R. 800.6 or (b) the agencies request, take into account, and respond to the comments of the ACHP under 36 C.F.R. 800.7. The BLM shall notify the Signatories and Invited Signatories as to the course of action it will pursue.

XIV. ADDITION/WITHDRAWAL OF PARTIES FROM/TO THE AGREEMENT

- a) Should conditions of the Project change such that other state, Federal, or tribal entities not already party to this Agreement request to participate, the BLM will notify the other consulting parties and invite the requesting party to participate in the Agreement. The Agreement shall be amended following the procedures in Stipulation XI.
- b) Should a Concurring Party determine that its participation in the Project and this Agreement is no longer warranted, the party may withdraw from participation by informing the BLM. The BLM shall inform the other consulting parties to this Agreement of the withdrawal.

XV. DURATION OF THIS AGREEMENT

- a) This Agreement will expire if the Project has not been initiated and the BLM ROW grant expires or is withdrawn, or the stipulations of this Agreement have not been initiated, within five (5) years from the date of its execution. This Agreement will also expire 30 years after its execution. At such time, and prior to work continuing on the Project, the BLM shall continue to follow the process provided at 36 C.F.R. 800.4 – 6 until either (a) a new memorandum of agreement or programmatic agreement is executed pursuant to 36 C.F.R. 800.6, or (b) the BLM request, take into account, and respond to the comments of

the ACHP under 36 CFR 800.7. The BLM shall notify the Signatories as to the course of action they will pursue within 30 days.

- b) The Signatories and Invited Signatories shall consult at year 4 to review this Agreement and every 5 years subsequently. Additionally, the Signatories and Invited Signatories shall consult not less than one year prior to the expiration date to reconsider the terms of this Agreement and, if acceptable, have the Signatories extend the term of this Agreement. Reconsideration may include continuation of the Agreement as originally executed or amended, or termination. Extensions are treated as amendments to the Agreement under Stipulation XI.
- c) Unless the Agreement is terminated pursuant to Stipulation XIII, another agreement executed for the Project supersedes it, or the Project itself has been terminated, this Agreement will remain in full force and effect until BLM, in consultation with the other Signatories, determines that implementation of all aspects of the Project has been completed and that all terms of this Agreement and any subsequent tiering requirements have been fulfilled in a satisfactory manner. Upon a determination by BLM that implementation of all aspects of the undertaking have been completed and that all terms of this Agreement and any subsequent tiered agreements have been fulfilled in a satisfactory manner, BLM will notify the consulting parties of this Agreement in writing of the agency's determination. This Agreement will terminate and have no further force or effect 30 days after BLM so notifies the Signatories to this Agreement, unless BLM retracts its determination before the end of that period.

XVI. EFFECTIVE DATE


This Agreement and any amendments shall take effect on the date that it has been fully executed by the Signatories. The Agreement and any amendments thereto shall be executed in the following order: (1) BLM, (2) SHPO.

Execution and implementation of this Agreement is evidence that the BLM have taken into account the effect of this Project on historic properties, afforded the ACHP a reasonable opportunity to comment, and that the BLM have satisfied their responsibilities under Section 106. The Signatories and Invited Signatories to this Agreement represent that they have the authority to sign for and bind the entities on behalf of whom they sign.

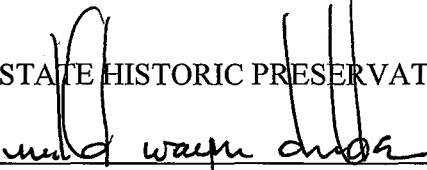
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SIGNATORY PARTIES

U.S. BUREAU OF LAND MANAGEMENT

BY:  DATE: OCT 05 2010
John Kalish
Manager, Palm Springs-South Coast Field Office

CALIFORNIA STATE HISTORIC PRESERVATION OFFICER

BY:  DATE: 7 OCT 2010
Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

INVITED SIGNATORY PARTIES

California Energy Commission
Palo Verde Solar I, LLC

Invited Signatory

CALIFORNIA ENERGY COMMISSION

BY: _____ DATE: _____

TITLE: _____

Invited Signatory

PALO VERDE SOLAR I, LLC

BY: _____ DATE: _____
TITLE: _____

CONCURRING PARTIES

MORONGO BAND OF MISSION INDIANS
COCOPAH INDIAN TRIBE
FORT YUMA QUECHAN INDIAN TRIBE
SAN MANUEL BAND OF MISSION INDIANS
TORRES-MARTINEZ DESERT CAHUIIIA INDIANS
FORT MOJAVE INDIAN TRIBE
TWENTYNINE PALMS BAND OF MISSION INDIANS
AGUA CALIENTE BAND OF CAHUIIIA INDIANS
AUGUSTINE BAND OF MISSION INDIANS
CABAZON BAND OF MISSION INDIANS
CHEMEHUEVI INDIAN TRIBE
COLORADO RIVER INDIAN TRIBES

Concurring Party

MORONGO BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

COCOPA INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

FORT YUMA QUECHAN INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

SAN MANUEL BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

TORRES-MARTINEZ DESERT CAHUILLA INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

FORT MOJAVE INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

TWENTYNINE PALMS BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

AGUA CALIENTE BAND OF CAHUILLA INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

AUGUSTINE BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

CABAZON BAND OF MISSION INDIANS

BY: _____ DATE: _____

TITLE: _____

Concurring Party

CHEMEHUEVI INDIAN TRIBE

BY: _____ DATE: _____

TITLE: _____

Concurring Party

COLORADO RIVER INDIAN TRIBES

BY: _____ DATE: _____

TITLE: _____

APPENDIX A: IDENTIFICATION AND EVALUATION

I. IDENTIFICATION

- a) The BLM will ensure that all cultural resources identified during cultural resources survey are recorded on new or updated California Department of Parks and Recreation Form DPR 523 (Series 1/95), using the “Instructions for Recording Historical Resources” (Office of Historic Preservation, March 1995).
- i) Previously unrecorded cultural resources which have religious or cultural significance to Tribes identified during cultural resources investigations and/or through consultations with Tribes may be recorded on the California DPR Form 523, unless a Tribe, Tribal organization, or an individual from a Tribe objects. If such objection arises, the properties may be recorded on a form and in a manner that is in accordance with the recommendations of the Tribe, Tribal organization, or of the individual. If the traditional cultural property is also a historical or archaeological site, those components of site will be recorded on the appropriate DPR form and filed with the California Historical Resources Information System (CHRIS).
- b) The cultural resources contractor will obtain permanent site numbers from CHRIS regional information center.
- c) The BLM, in consultation with the Energy Commission and the SHPO, shall review all site records for accuracy, adequacy of information, and completeness and determine whether they are sufficient to support agency determinations and findings. Final approved site records shall be submitted to the CHRIS. Permanent site numbers shall then be used in all final reports and other documents prepared pursuant to the requirements of this Agreement.
- d) The BLM, in consultation with the Energy Commission will ensure that cultural resources survey reports are responsive to Energy Commission Data Requests.

II. EVALUATION

- a) The BLM shall authorize field investigations by the Applicant for the purposes of evaluation of the potential site types identified in the APE listed below (but not limited to) and evaluation of the information potential and significance of the cultural resources in the APE.

Prehistoric Archaeological Resources

Chipped Stone Deposits

Sparse Lithic Scatters

Chipped and Ground Stone Deposits

Ceramic Deposits

Archaeological Deposits that Include FAR Concentrations

Trail Segments

Historical Archaeological Resources

Early Twentieth Century Mining Sites

Surveying Monuments

Historic Refuse Deposits

Pebble and Cobble Concentrations

Transportation and Trail Segments

Unique Archaeological Resources

Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA)

- b) BLM shall consult with the Tribes and seek the views and comments of Tribal organizations and individual tribal members regarding any unevaluated cultural resource to which they may attach religious or cultural significance in order to ascertain the status of these places relative to NRHP and CRHR eligibility criteria.

APPENDIX B: HISTORIC PROPERTIES TREATMENT PLAN(S)

I. *HISTORIC PROPERTIES TREATMENT PLAN(S) provide for the resolution or mitigation of effects to historic properties as a result of the project.*

- a) Any HPTP tiered from the Agreement shall include but is not limited to:
 - i) A list of the historic properties subject to the HPTP, determined or treated as eligible for project management purposes, in the APE that the construction of the Project will unconditionally avoid,
 - ii) The measures that the Applicant will take to avoid, minimize, or mitigate the adverse effects on historic properties,
 - iii) If a separate monitoring and/or discovery plan is not already in place, provide a plan for monitoring during construction, which would include the treatment of inadvertent discoveries and the participation of tribal cultural specialists. The following shall be considered during development of these plans:
 - (1) Qualifications of archaeological monitors
 - (2) participation of tribal cultural specialists in monitoring
 - (3) areas in the APE requiring monitoring
 - (4) authority of monitors to halt work
 - (5) protective measures for historic properties
 - (6) communication protocols
 - (7) safety and resource training
 - (8) procedures upon discovery
 - (9) evaluation of the inadvertent discoveries
 - (10) implementation of standard treatment measures
 - (11) field protocol upon discovery of human remains
 - iv) The proposed disposition of recovered materials and records shall be curated in accordance with Stipulation VIII(c).
 - v) The procedures for treatment and disposition of any human remains, funerary objects, sacred objects, and objects of cultural patrimony in accordance with NAGPRA and the California Health and Safety Code 7050.5 as appropriate.
 - vi) A research design which addresses significant themes and questions for the types of historic properties to receive treatment.
 - vii) A schedule for completing treatment measures, including analysis, reporting and disposition of materials and records, as well as a schedule for completing the draft and final data recovery report(s).

viii) A description of alternative treatments for adverse effects that are not data recovery and that may include (but is not limited to):

- (1) Placement of construction within portions of historic properties that do not contribute to the qualities that make the resource eligible
 - (2) Deeding cemetery areas into open-space in perpetuity and providing the necessary long-term protection measures
 - (3) Public interpretation including the preparation of a public version of the cultural resources studies and/or education materials for local schools
 - (4) Access by Indian tribes to traditional areas in property after the project has been constructed
 - (5) Support by Applicant to cultural centers in the preparation of interpretive displays
 - (6) Consideration of other off-site mitigation
- b) Any treatment plan tiered from this Agreement or the HPTP shall reflect the ACHP archaeological guidance at <http://www.achp.gov/archguide/>, the BLM 8100 Manual, and the Secretary of the Interior's Standards for the Treatment of Historic Properties.

II. COORDINATION WITH ENERGY COMMISSION MEASURES UNDER CEQA

- a) Guidelines for implementation codified in the California Code of Regulations (CCR), Title 14, Chapter 3, Sections 15000 et seq., requires state and local public agencies to identify the environmental impacts of proposed discretionary activities or projects, determine if the impacts will be significant, and identify alternatives and mitigation measures that will substantially reduce or eliminate significant impacts to the environment. Pursuant to 13 CRR Section 15126.4(a)(1), feasible measures which could minimize adverse impacts must be described in the environmental assessment.
- i) Section 15221(b) provides that because NEPA does not require separate discussion of mitigation measures, these points of analysis will need to be added, supplemented, or identified before the EIS can be used as an EIR.
- ii) Section 15126.4(a)(1)(B) states that formulation of mitigation measures should not be deferred until some future time, but that measures may specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way.

III. PERFORMANCE STANDARDS FOR NHPA SECTION 106 AND CEQA MITIGATION

- a) Cultural mitigation measures and performance standards considered within the Section 106 consultation and CEQA process include, but are not limited to:
 - i) Avoidance
 - ii) For cultural resources, the preferred method of mitigation is avoidance of all cultural resources to the maximum extent practicable. Mitigation measures which could include avoidance are normally developed through consultation to reduce impacts to significant cultural resources. The BLM through the consultation process and development of the HPTP(s) will determine which mitigation measures are applied to specific cultural resources.
 - iii) Archaeological Data Recovery
 - (1) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken.
 - (2) Data recovery shall not be required for an historical resource if the lead federal agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource.
 - iv) Built-Environment Resources
 - (1) Documenting built-environment resources in accordance with the standards and guidelines provided by the Historic American Building Survey (HABS), Historic American Engineering Record (HAER), Historic American Landscapes Survey (HALS).
 - (2) Relocating or moving historic buildings, objects or structures out of the APE.
 - v) Properties of Sacred or Cultural Significance to Indian Tribes
 - (1) Cremation/Burial Sites
 - (a) Avoidance of cremation or burial sites is the preferred management alternative.
 - (b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the NAGRPA Plan of Action as provided in Appendix K.
 - (2) Trails

- (a) Avoidance of direct physical effects to trails is the preferred management alternative.
 - (b) Where avoidance of direct physical effects is not achievable, treatment shall follow the provisions of the HPTP. A study of trails may be carried out to determine the nature and extent of the trails beyond the APE and may be considered within the context of a HALS study.
- (3) Geological landforms or other places of religious or cultural significance.
- (a) BLM shall continue to seek information from the Tribe(s) or Tribal organizations to determine the character and use of places of religious or cultural significance.
 - (i) Maintenance of existing access to places of religious or cultural significance is the preferred management alternative.
 - (b) Engineering solutions to eliminate or minimize direct or indirect non-physical effects will be identified, including but not limited to, orienting the parabolic solar trough assemblies to minimize glare, or erecting screens to eliminate glare.

vi) Discoveries

- (1) Following the discovery of any resources determined by BLM to be eligible to the NRHP, the Applicant shall ensure that the designated cultural resources contractor prepares a research design and a scope of work for any necessary data recovery or additional mitigation. The Applicant shall submit the proposed research design and scope of work to the BLM and Energy Commission's Compliance Project Manager for review and approval.
- (2) The proposed research design and scope of work shall include (but not be limited to): a discussion of the methods to be used to recover additional information and any needed analysis to be conducted on recovered materials; a discussion of the research questions that the materials may address or answer by the data recovered from the Project, and; discussion of possible results and findings.

vii) Monitoring

- (1) Prior to the start of vegetation clearance or earth disturbing activities or Project site preparation, the Applicant shall provide the designated cultural resources monitors and the BLM and/or Energy Commission's CPM with maps and/or drawings showing the footprint of the power plant and all linear facilities. Maps provided will include USGS 7.5-minute topographic quadrangle maps. If the designated cultural resource specialist requests enlargements or strip maps for linear facility routes, the Applicant shall provide them. If the footprint of the power plant or linear facilities changes, the Applicant shall provide maps and drawings reflecting these changes, to the cultural resources specialist within five

days. Maps shall show the location of all areas where surface disturbance may be associated with Project-related access roads, and any other Project components.

- (2) The designated cultural resource specialist shall be available at all times to respond within 24 hours after pre-construction or construction activities have been halted due to the discovery of a cultural resource(s). The specialist, or representative of the Applicant shall have the authority to halt or redirect construction activities if previously undiscovered cultural resource materials are encountered during vegetation clearance or earth disturbing activities or project site preparation or construction. If such resources are discovered, the designated cultural resource specialist shall be notified and the Applicant or Applicant's representative shall halt construction in order to protect the discovery from further damage and the BLM will be notified. Project construction may continue elsewhere on the Project if the BLM determines that it will not affect the cultural resource in question.

viii) Qualifications

- (1) Prior to the start of construction-related vegetation clearance, or earth-disturbing activities or Project site preparation; or the movement or parking of heavy equipment onto or over the Project surface, the Applicant shall provide the BLM and/or the Energy Commission CPM with the name and statement of qualifications for its designated cultural resource specialist and alternate cultural resource specialist, if an alternate is proposed, who will be responsible for implementation of all BLM cultural resources conditions and Energy Commission cultural resources conditions of certification. The statement of qualifications for the designated cultural resource specialist and alternate shall include all information needed to demonstrate that the specialist meets at least the minimum qualifications specified by the National Park Service, Heritage Preservation Services.

(2) Training

- (a) Prior to the start of vegetation clearance or earth disturbing activities or Project site preparation, the designated cultural resource specialist shall prepare an employee training program. The Applicant shall submit the cultural resources training program to the BLM, Energy Commission, and SHPO for review and written approval. If a video is used as part of the training program, the owner shall also submit the script for review and written approval.
- (b) Prior to the start of vegetation clearance or earth disturbing activities or Project site preparation, and throughout the project construction period as needed for all new employees, the Applicant shall ensure that the designated cultural resource trainer(s) provide(s) approved cultural resources training to all Project managers, construction supervisors, or anyone coming on the construction site as an employee, contractor, subcontractor, or in any other capacity to complete work for the Applicant. The Applicant shall ensure that

the designated trainer provides the workers with the approved a set of procedures for reporting any sensitive resources that may be discovered during Project-related ground disturbance. In addition, the Applicant shall communicate the work curtailment procedures that the workers are to follow if previously undiscovered cultural resources are encountered during construction.

IV. HISTORIC PROPERTY TREATMENT PLANS (HPTP)

- a) Finalized HPTPs will be included as an attachment to this Appendix.
- b) In developing the HPTPs, the HPTPs shall consider the following measures:
 - i) Prehistoric Period Historic Properties
 - (1) Avoidance
 - (2) Minimize
 - (a) Strategic placement of transmission towers in areas of a site that would not adversely affect the information values
 - (b) Data recovery for historic properties eligible under Criterion D only
 - (i) Research Design
 - ii) Historic Period Historic Properties
 - (1) Avoidance
 - (2) Minimize
 - (a) Data recovery for historic properties eligible under Criterion D only
 - (i) Research Design
 - (b) Historic built-environment Historic Properties with associative values
 - (i) Desert Training Center/California-Arizona Maneuver Area (DTC/C-AMA)
 - (c) Resources of Native American religious and cultural significance and Traditional Cultural Properties
 - (i) Avoidance
 - (ii) Minimize
 - (iii) Monitor
 - (iv) Access

APPENDIX C: HISTORIC PROPERTIES MANAGEMENT PLAN

I. HISTORIC PROPERTIES MANAGEMENT PLAN

- a) A Historic Properties Management Plan (HPMP) will be developed to further manage or prescribe additional treatment to historic properties within the APE during the future operation, long-term maintenance and decommissioning of the Project and consider effects to historic properties in relation to those actions. The HPMP will include but is not limited to monitoring requirements for those cultural resources within the APE that were avoided through project redesign.
- b) The BLM shall submit the HPMP to the consulting parties to the Agreement and Tribes for a 60 day review period. Absent comments within this time frame, the BLM may finalize the HPMP. If comments are received, the BLM will provide the parties with written documentation indicating whether and how the draft HPMP will be modified. If the HPMP is revised in response to comments, the BLM shall submit the revised HPMP to all parties for an additional 30 day review period. Absent comments within this time frame, the BLM will finalize the HPMP. The BLM will provide each of the consulting parties and Tribes a copy of the final HPMP.

APPENDIX D: PROJECT DESCRIPTION

The Blythe Solar Power Project is a proposed solar energy power plant with 1,000 megawatts (MW) of nominal capacity comprised of four independent 250MW units (Units #1, #2, #3, and #4). The proposed project disturbance area is approximately 7,025 acres on land administered by the Bureau of Land Management in Riverside County, California, approximately eight miles west of the town of Blythe, two miles north of I-10. The units would be developed in phases, with construction scheduled to begin in late 2010 on the first unit, which would come on line in mid-2013.

The proposed Blythe Solar Power Project includes the following components:

- a) A solar thermal power plant facility.
- b) Major Components Overview:
 - Unit #1 (northeast) Solar Field and Power Block;
 - Unit #2 (northwest) Solar Field and Power Block;
 - Unit #3 (southwest) Solar Field and Power Block;
 - Unit #4 (southeast) Solar Field and Power Block;
 - Access road;
 - Office and parking;
 - Land Treatment Unit (LTU) for bioremediation/land farming of HTF-contaminated soil;
 - Warehouse/maintenance building and lay-down area;
 - Onsite transmission facilities, including central internal switchyard;
 - Natural gas pipeline;
 - Telecommunications lines;
 - Evaporation ponds;
 - Fencing (Wind, Security and Desert Tortoise);
 - Dry wash rerouting; and
 - Groundwater wells used for water supply.
- c) Project Details:
 - i) Solar Fields: The proposed project would be constructed in 250 MW units using solar thermal parabolic trough technology. With this technology, arrays of parabolic mirrors collect heat energy from the sun and refocus the radiation onto a receiver tube located at the focal point of the parabola. A heat transfer fluid (HTF) is heated to a high temperature (approximately 750 degrees Fahrenheit [°F]) as it circulates through the receiver tubes. The heated HTF is then piped through a series of heat exchangers where it releases its stored heat to generate high-pressure steam. The steam is then fed to a traditional steam turbine generator where electricity is produced.
 - ii) Power Blocks: Each power block unit would have its own solar field, composed of piping loops arranged in parallel groups, and its own power block, centrally located within the solar field. Each power block would have its own HTF pumping and freeze-protection system, solar steam generator, steam turbine generator, air-cooled

- condenser for cooling, transmission lines and related electrical system, and auxiliary equipment (e.g., water treatment system, emergency generators, evaporation ponds).
- iii) Roads: Access to the Blythe project site would be via a new road heading north from the Interstate 10 frontage road. This road would be accessed from an improved section of Black Rock Road along I-10, from the plant access road to the Airport/Mesa Drive exit. Only a small portion of the overall project site would be paved, primarily the site access road, the service roads to the power blocks, and portions of the power blocks (paved parking lot and roads encircling the STG and SSG areas). The remaining portions of each power block would be gravel surfaced. In total, each power block area would be approximately 18.4 acres each, with approximately six acres of paved area. The solar fields would remain unpaved and without a gravel surface in order to prevent rock damage from mirror wash vehicle traffic; an approved dust suppression coating would be used on the dirt roadways within and around the solar fields. Roads and parking areas located within the power block areas and adjacent to the administration building and warehouses would be paved with asphalt.
- iv) Fencing and Security: The project solar fields and support facilities' perimeter would be secured with a combination of chain link and wind fencing. Chain link metal fabric security fencing consists of eight-foot tall fencing with one-foot barbed wire or razor wire on top along the north and south sides of the facilities. Thirty-foot tall wind fencing, comprised of A-frames and wire mesh, would be installed along the east and west sides of each solar field. Desert Tortoise exclusion fencing would be included. Controlled access gates would be located at the site entrance. As discussed below, the drainage channels would be outside the plant and the security fencing but still within the project ROW.
- v) Drainage and Earthwork: The existing topographic conditions of the project site show an average slope of approximately one foot in 67 feet (1.50%) toward the east on the west side of the site and approximately one foot in 200 feet (0.50%) toward the southeast on the east side of the site. The project site lies in the Palo Verde Mesa east of the McCoy Mountains. The general storm water flow pattern is from the higher elevations in the mountains located three miles west of the site to the lower elevations in the McCoy Wash to the east of the site.
- Drainage will be constructed in two phases: Phase One accommodates the necessary drainage for the construction of Units 1 & 2, and Phase Two the drainage plan for the entire four unit facility. In Phase One, two of the five major channels will need to be built for Units 1 and 2: the entire length of the North Channel plus diffuser, and the entire length of the Central channel plus diffuser. Only the portion of the West channel that bounds the southwest corner of Unit 2 will need to be constructed; the remainder of the West channel will not be needed until Units 3 and 4 are built. Phase Two will implement the fully constructed drainage plan for the entire facility, which was previously submitted to Staff.
- vi) Natural Gas Pipeline: A new four-inch diameter, 9.8-mile long natural gas pipeline would be constructed to connect the Blythe project to an existing SCG pipeline situated south of I-10. Approximately eight miles would be within the plant site boundary and two miles outside the plant site boundary. The line would be buried with a minimum three feet of cover depending on location. The gas line route takes

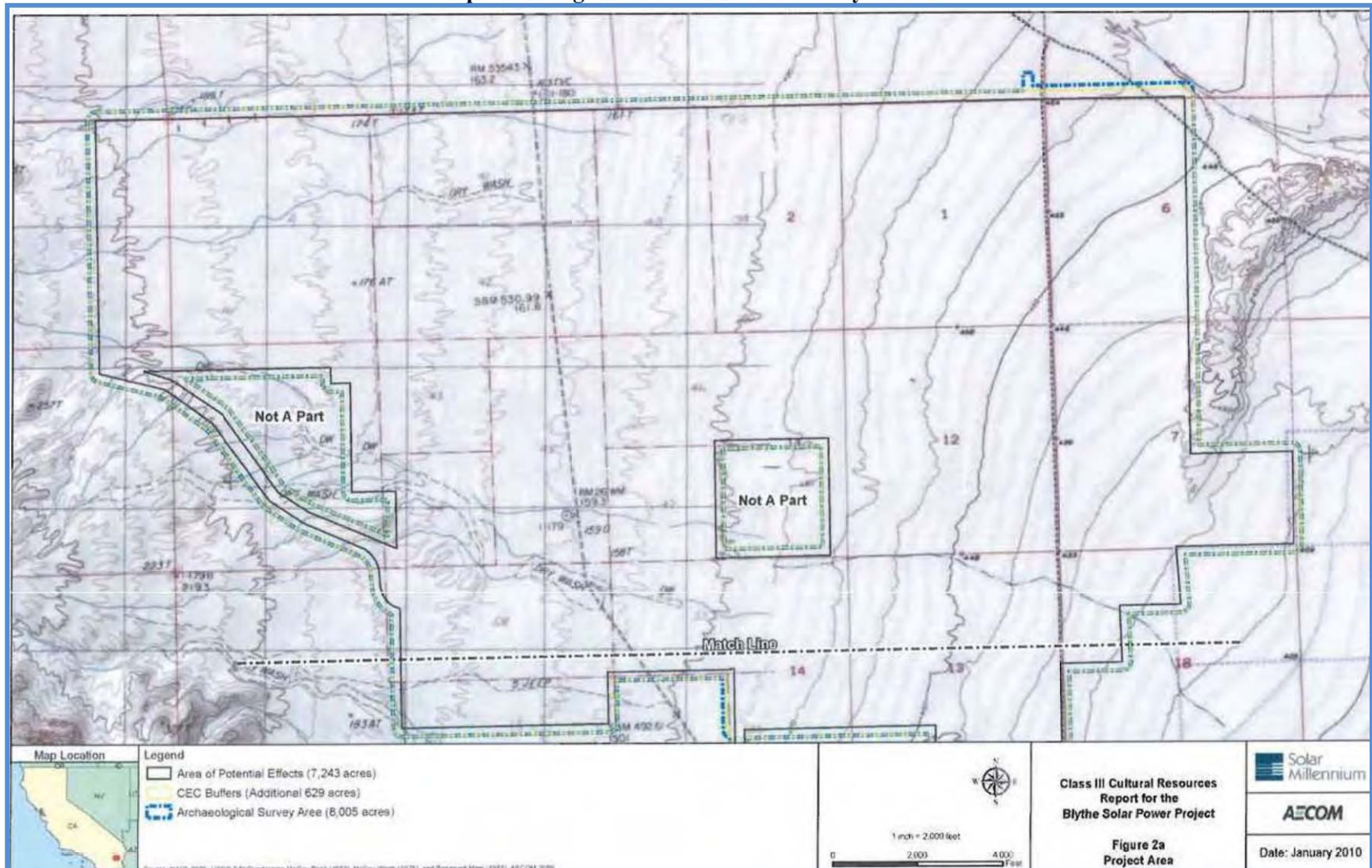
off from an existing SCG line 1,800 feet south of I-10. The alignment of the pipeline is directly north to the project site.

- vii) Transmission System: The BSPP facility would be connected to the SCE transmission system at the new Colorado River substation planned by SCE approximately five miles southwest of the Blythe project site. The proposed generator-tie line would consist of a bundled double circuit 230 kV line.

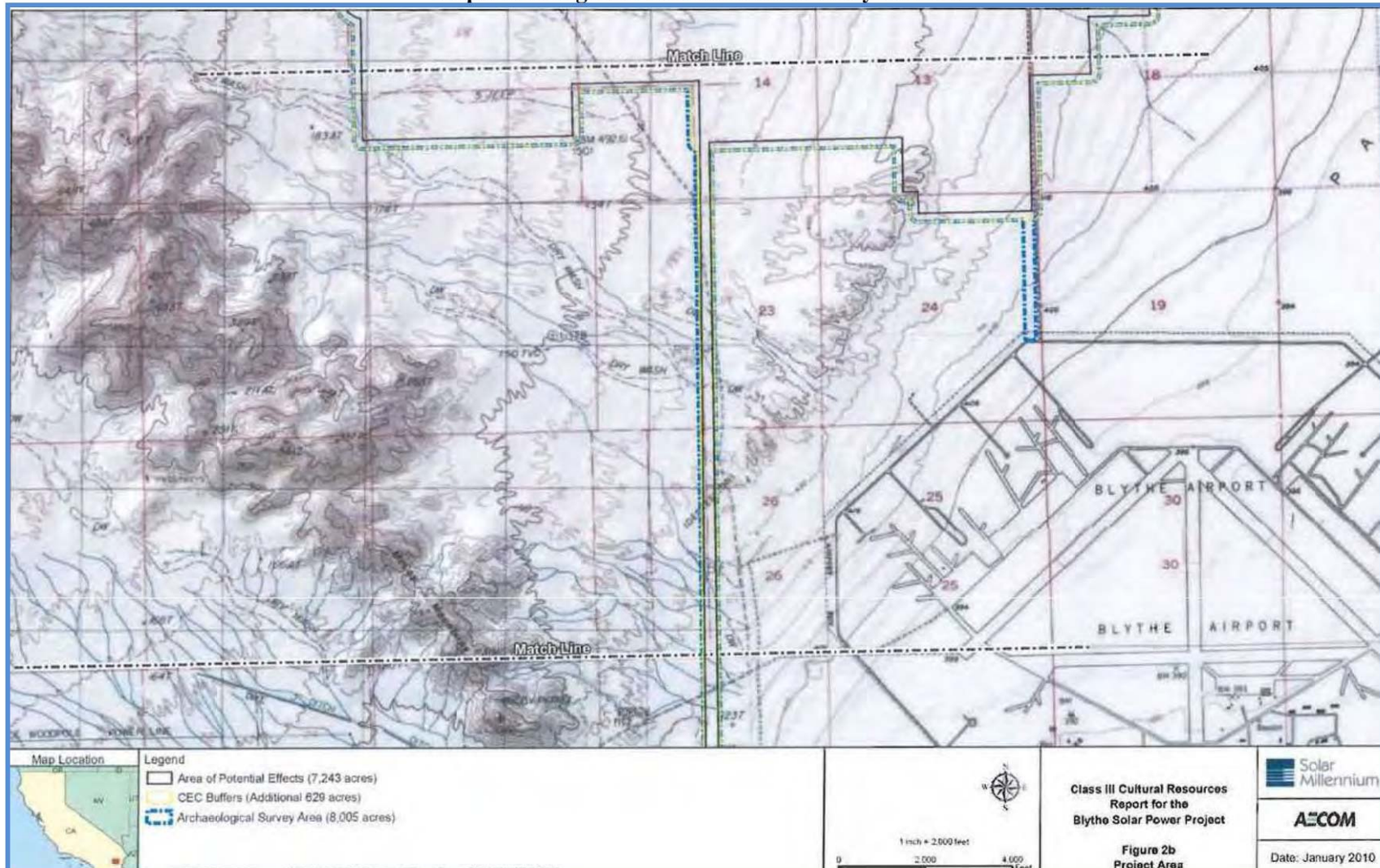
APPENDIX E: PROJECT MAPS AND ILLUSTRATIONS

1. Map showing Area of Potential Effect
2. Map showing Area of Potential Effect
3. Map showing Area of Potential Effect
4. Illustration of the configuration and layout of proposed project and components
5. Illustration of the Power Block Arrangement.
6. Illustrations of Solar Trough Assemblies
7. Rendition of view north from I-10 towards Big Maria Mountains

Map 1 showing APE with additional survey buffers.



Map 2 showing APE with additional survey buffers.



Map 3 showing APE with additional survey buffers.

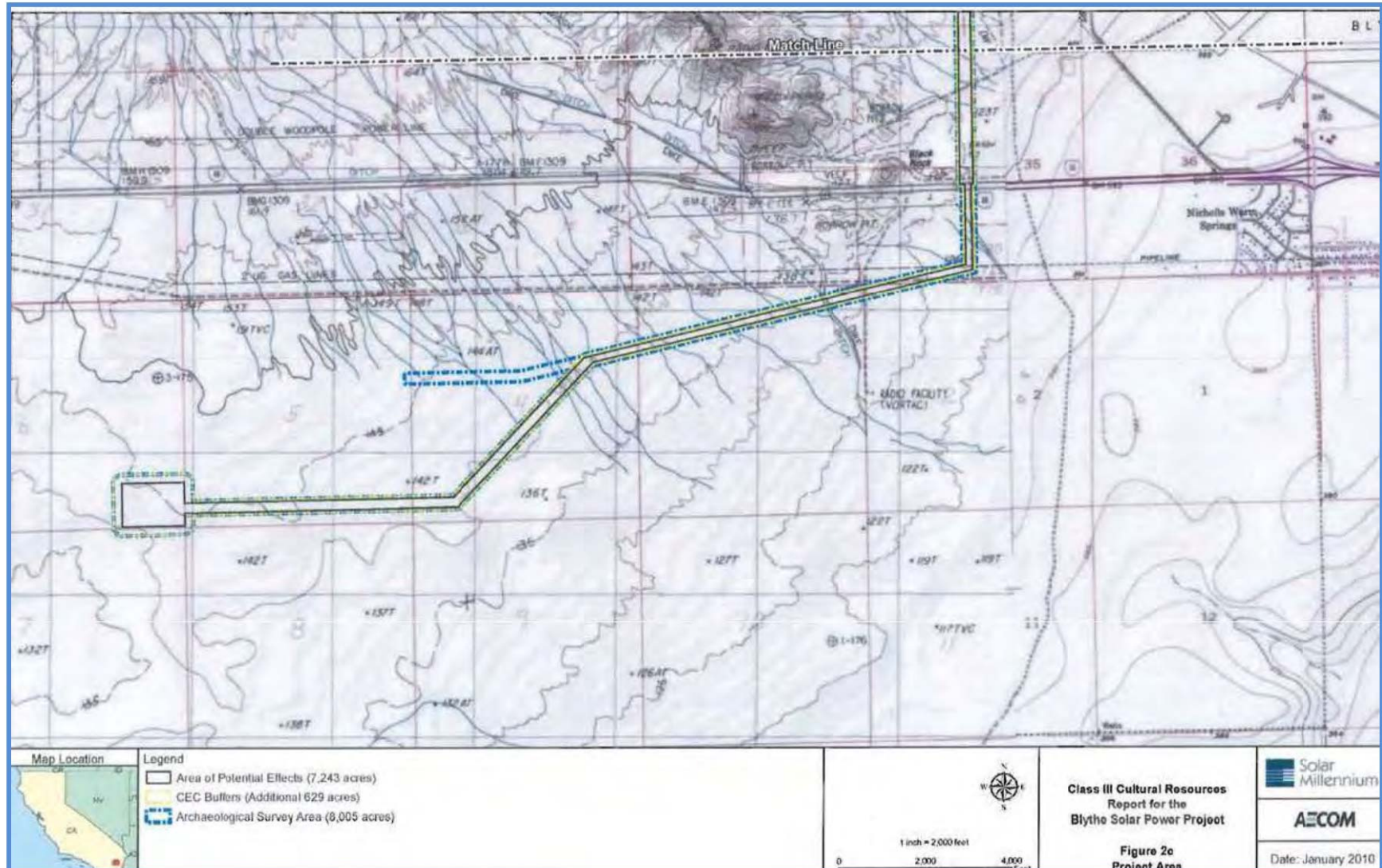


Illustration of the configuration and layout of proposed project and components.

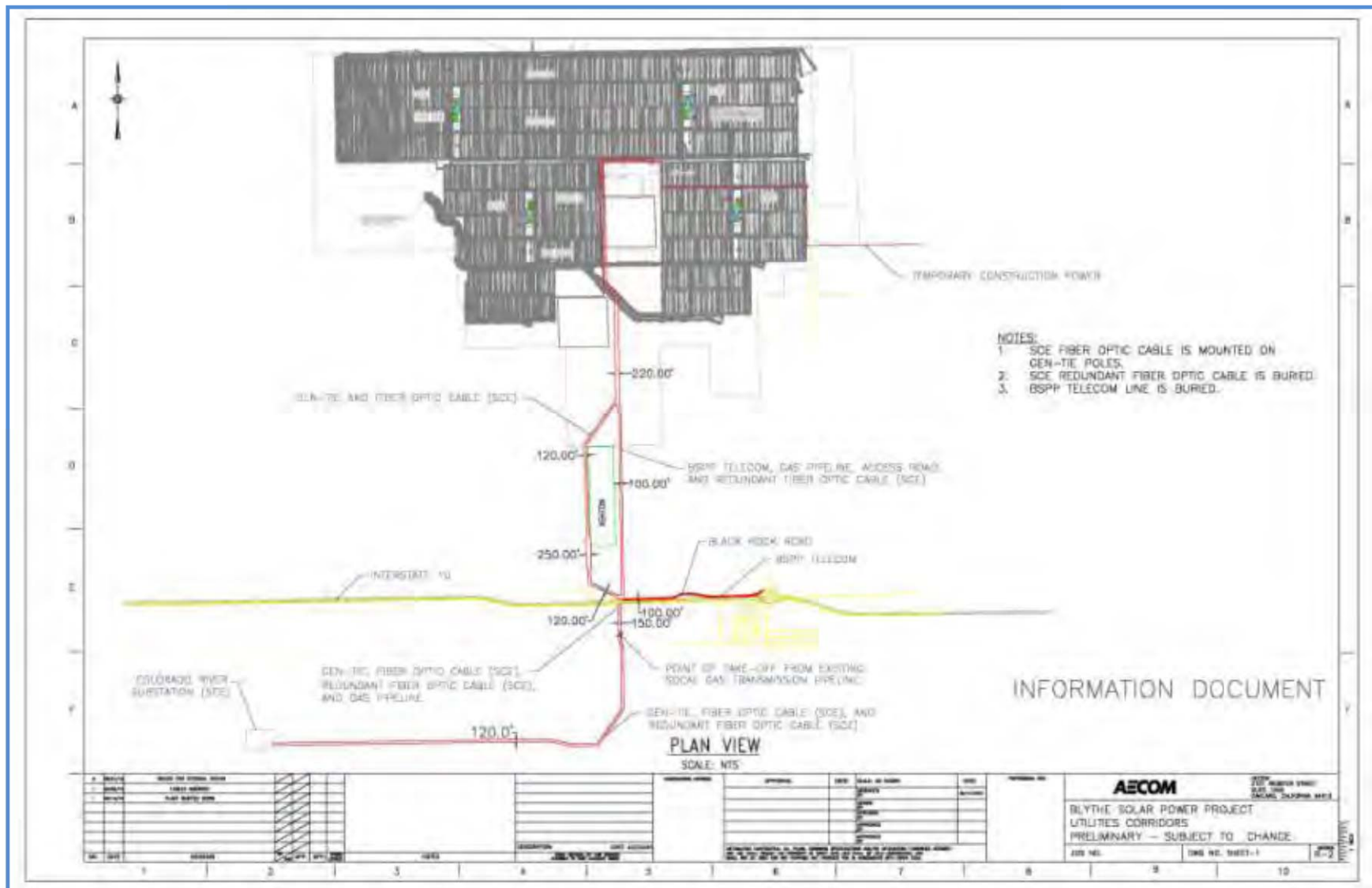
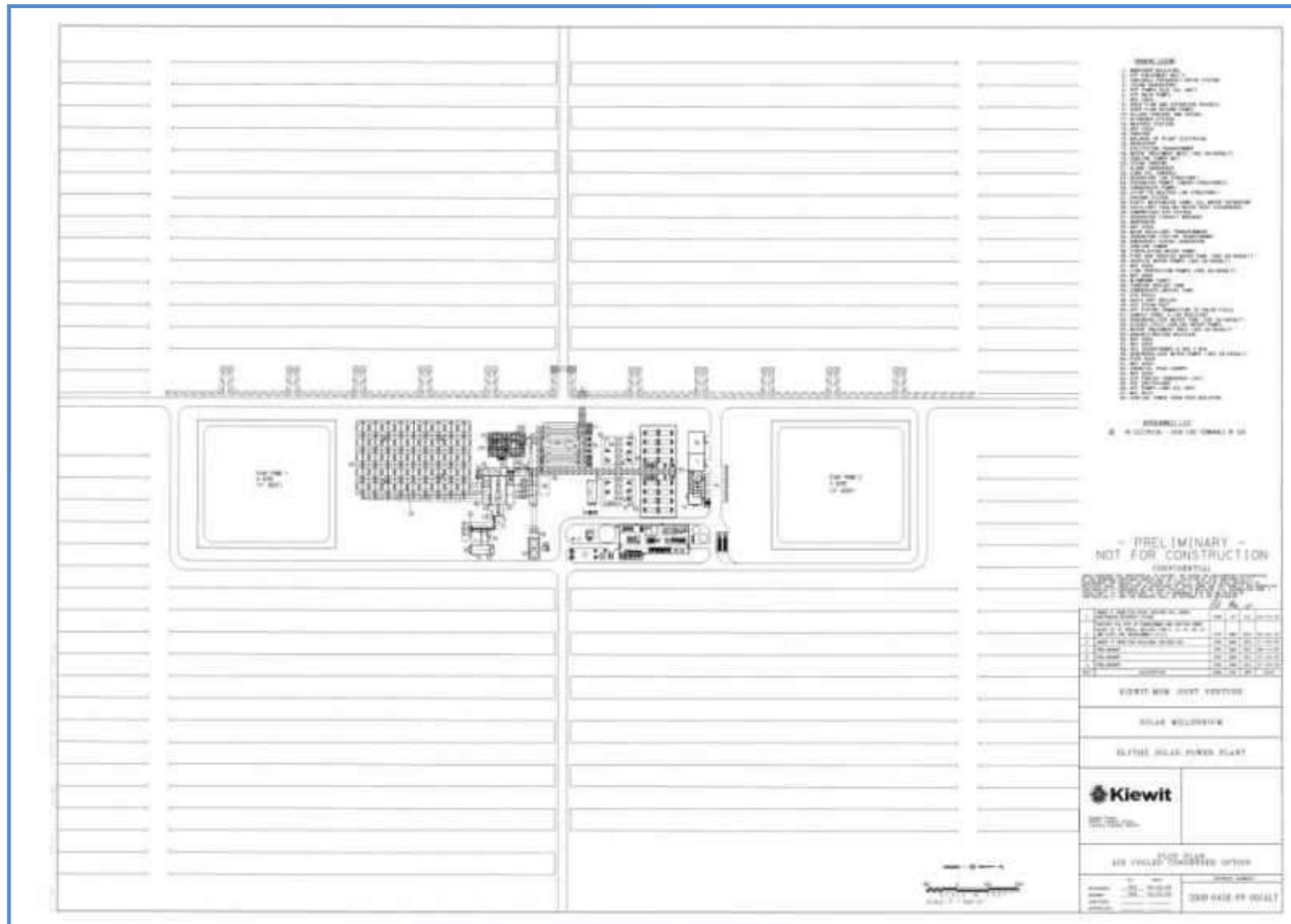
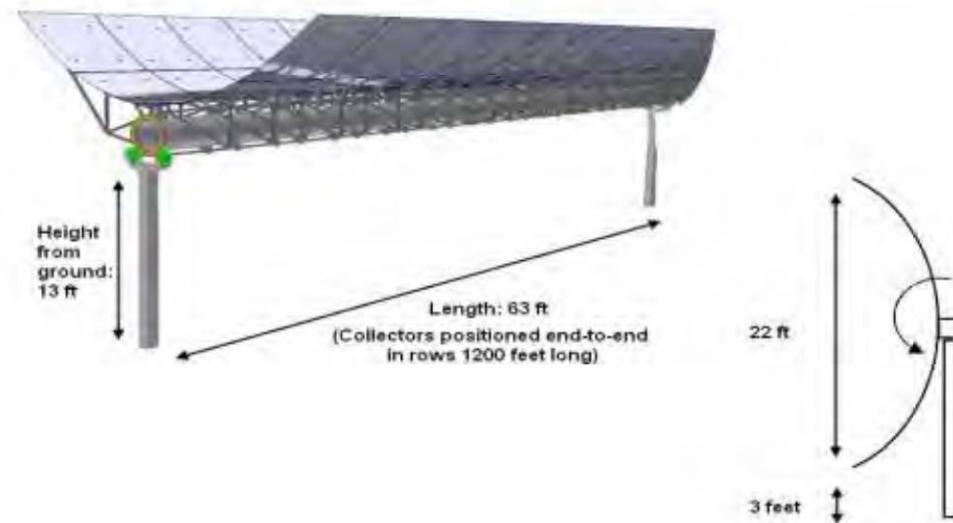


Illustration of the Power Block Arrangement



TYPICAL SOLAR TROUGH ASSEMBLY



Completed Solar Trough Assembly

Illustrations of Solar Trough Assemblies.

Rendition of view north from I-10 towards Big Maria Mountains



APPENDIX F: SUMMARY OF CULTURAL RESOURCES INVESTIGATIONS

The BLM, in coordination with the Energy Commission, has authorized the Applicant to conduct specific identification efforts for this undertaking including a review of the existing literature and records, cultural resources surveys, ethnographic studies, and geomorphological studies to identify historic properties that might be located within the APE.

The Applicant has retained AECOM to complete all of the investigations necessary to identify and evaluate cultural resources located within the Area of Potential Effect (APE) for both direct and indirect effects. AECOM is authorized to conduct cultural resources investigations on lands managed by the BLM under Cultural Resources Use Permits No. CA-06-20 and CA-09-31 issued by the BLM California State Office. AECOM is authorized to conduct specific field investigations for the Solar Millennium Blythe Solar power Project under BLM Fieldwork Authorization CA-660FA#66.24 09-12 and Fieldwork Authorization CA- CA-660FA#66.24 10-02.

AECOM has completed a review of the existing historic, archaeological and ethnographic literature and records to ascertain the presence of known and recorded cultural resources in the APE, has conducted an intensive field survey for all of the lands identified in APE for direct effects for all project alternatives, and has completed intensive field surveys for alternatives on lands that are no longer part of the project. Approximately 8,005 acres of pedestrian survey to identify cultural resources within the APE has been completed. The ROW that BLM would issue encompasses approximately 7,243 acres of land, including the proposed 230-kV substation, the solar energy power plant, the Main Services Complex and associated electric and utility services, the sanitary system, access and entry roads, and corridors for the electric transmission line and the natural gas supply pipeline.

A draft cultural resources report (*CULTURAL RESOURCES CLASS III SURVEY DRAFT REPORT FOR THE PROPOSED BLYTHE SOLAR POWER PROJECT RIVERSIDE COUNTY, CALIFORNIA*, prepared by AECOM, January 2010) has been submitted by the Applicant that presents the results of identification efforts to the BLM and the Energy Commission. The BLM and the Energy Commission are currently reviewing all documentation to determine whether the report conforms with the field methodology and site description template required by BLM and the Energy Commission and is adequate to support to determinations and findings the agency's will render pursuant to Section 106 of the NHPA.

AECOM conducted a records search at the Eastern Information Center (EIC) in Riverside, California. The EIC searched all relevant previously recorded cultural resources site records and previous investigations completed within the project area and a 1-mile search radius around it. Information reviewed included location maps for all previously recorded trinomial and primary prehistoric and historical archaeological sites and isolates; site record forms and updates for all cultural resources previously identified; previous investigation boundaries; and National Archaeological Database citations for associated reports, historical maps, and historical addresses. The literature and records search identified 26 records related to cultural resources investigations conducted within 1-mile of the Project area. Several of these records were for

prior projects which overlap the boundaries of the Solar Millennium Blythe Project APE. The record search also identified approximately 71 previously recorded cultural resources within the APE and extended survey areas (Appendix F: Prior Investigations and Recorded Resources).

In 2009, AECOM conducted an intensive cultural resources survey (also referred to as a BLM Class III survey) of the APE. In 2010 additional fieldwork took place over the course of a number of separate field efforts as directed by the BLM and CEC. The additional field work was conducted to survey Gen-tie line and solar field alternatives. This work involved approximately 1,000 acres of additional survey and an additional records search with the Eastern Information Center. The EIC identified an additional three resources. The three previously recorded sites were located and an additional 12 new sites were discovered and recorded. Other project-related components included in the APE were also examined during the cultural resources investigations. These included the Colorado River Substation, which is an existing facility. The natural gas pipeline and transmission line corridors were also surveyed, both within the project site and off-site locations that are associated with the project.

The cultural resources survey of the proposed 1,000 MW solar energy plant APE identified 332 total cultural resource sites, of which 40 are prehistoric, 253 are historic and 39 are multi-component. One thousand five hundred fourteen isolate finds were also identified.

The ROW was withdrawn from the northeast of the current ROW, partly in the McCoy Wash, for environmental stewardship reasons to minimize the Project's impact on biological and cultural resources. The resources avoided by reducing the ROW to its current acreage are as follows:

Site No.	Age	Description
P-33-12902	Historic	Military isolates
P-33-12905	Historic	Glass bottle isolate
P-33-12908	Historic	Military isolate
P-33-12910	Historic	Military isolate
P-33-12911	Historic	Military isolates
CA-RIV-7179	Multi-component	Prehistoric ceramic scatter, historic tent platforms
CA-RIV-3418	Prehistoric	Quarry site
CA-RIV-3672	Prehistoric	Quarry site
P-33-12906	Prehistoric	Ceramic isolates
P-33-12907	Prehistoric	Cobble isolates, both pieces discarded
P-33-12909	Prehistoric	Cobble isolate
P-33-12912	Prehistoric	Ceramic scatter

To date, AECOM has surveyed 9,400 acres for the Blythe Solar Power Project. A complete list of cultural resources that are located within the APE for direct effects is provided in Appendix H. A tabular summary of the results of cultural resources investigations follows:

Table 1: Cultural Resources Summary, Project Area (AECOM, 2010)

Project Component	Prehistoric	Historic	Multi-Component	Indeterminate	Total¹	Isolated Finds
Plant Site	27	205	27	0	259	1237
Substation	0	2	0	0	2	3
Utility, Access Road, and T-Line Corridors	1	12	6	0	19	42
T-Line (Re-Routed Portion)	0	3	4	0	7	9
Out of Project or in CEC Buffer	12	31	2	0	45	223
Total	40	253	39	0	332	1514

¹Note that Cultural Resource Summary Table total is not inclusive of the historic-period built environment properties

In addition, AECOM completed an intensive historic architecture survey to account for the properties that appeared to be older than 45 years within the historic architecture APE, which extends one-half mile from the proposed project site and one-half mile on either side of its aboveground linear facilities.

APPENDIX G: AGENCY FINDINGS AND DETERMINATIONS

The BLM has not rendered formal determinations of eligibility or findings of effect for the cultural resources that may be affected by this undertaking. It is the BLM's intent to render preliminary determinations of eligibility on all resources prior to the Record of Decision and prior to the release of the final EIS if feasible, and provide opportunity for consulting parties and the public to comment on the agency's determinations, prior to submitting final determinations to the State Historic Preservation Office (SHPO) for review and comment. Determinations that the BLM may render are based on cultural resources documentation and recommendations that are currently under review and have not necessarily been accepted or approved by the agency. For a few cultural resources, primarily archaeological sites whose values are primarily informational, additional information or testing may be required in order to render a final determination of eligibility.

A description of preliminary recommendations on the eligibility of cultural resources is provided in Appendix F: Results of Cultural Resources Investigations.

Effects to historic properties and the treatment of effects within the APE are generally summarized as follows. Specific treatments to resolve effects that are developed by the consulting parties to this Agreement would be stipulated in the Historic Property Treatment Plans that tier from this Agreement.

- Within the APE for direct physical effects for the 1,000 MW solar energy plant as proposed, there would be an adverse effect on all historic properties for which the significant values are informational and eligibility for the NRHP is limited to criterion D considerations. Opportunities to avoid significant values may exist along the linears, However the specific nature of the installation of the Solar parabolic trough, the industrial nature of the project and the intensity of the development would make long term management and protection of resources within the boundaries of the solar energy plant impractical and difficult to implement. The recommended treatment measures would likely involve recovery of the informational values through archaeological excavation and study. Additional mitigation measures, such as educational materials or public interpretation, would also be considered in the HPTP for these historic properties.
 - Based on the results of the intensive cultural resources survey for the original 1,000 MW solar energy plant, the Applicant, in consultation with BLM and the Energy Commission, reconfigured the proposed project, layout by moving the western boundary of a portion of the northwestern corner of the solar field and expanding the eastern boundary further to the east thereby retaining the same acreage of the project, for the express purpose of avoiding direct physical impacts to biological resources and archaeological sites. -
 - Avoidance of direct physical effects is the preferred treatment measure for historic properties to which Indian Tribes attach sacred or religious significance, or for properties that have cultural significance as a traditional cultural property. The BLM would achieve this preferred treatment by conditioning the ROW grant to exclude those historic properties, or lands, from the project if feasible.

- For historic properties located in the APE for direct physical effects in linear corridors, such as the natural gas pipeline, the transmission line, and the main access road, the preferred treatment measure is avoidance through project redesign. The natural gas pipeline would be constructed in the transmission line corridor and should avoid direct physical effects to historic properties. However, the natural gas pipeline as well as the 230KV transmission line may be realigned and the ROW adjusted to avoid historic properties that may be located in the APE. If the property cannot be avoided, the BLM would minimize or mitigate the effects through implementation of the HPTP for significant values of the resource.
- Although the Bradshaw Trail corridor and associated prehistoric trails are in the vicinity of the project area, no cultural resources or other manifestation associated with the trail has yet been identified within the APE.
 - Mitigation measures developed for a potential Prehistoric Trails Cultural Landscape by the CEC in their COCs will be outlined in an HPTP developed specifically for the potential prehistoric trails landscape.
 - Use of aerial, LIDAR and satellite imaging technology to try to identify a primary path for the trail.
 - Where archaeological data recovery is used as a mitigation measure, the investigations should provide attention to identifying artifacts or faunal remains that may have been left behind by prehistoric peoples.
 - Coordination with mitigation measures developed in the FEIS and Energy Commission's Staff Assessment for effects to trails and viewsheds, which may include one-time preparation and installation of interpretive displays at the project site or other known trail sites outside the project area, the one-time development of visitor overlooks, or the one-time creation of audio/driving interpretive materials.

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APPENDIX H: CULTURAL RESOURCES IDENTIFIED WITHIN THE APE

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
N/A	53T	Prehistoric trail segment	Prehistoric	Unknown (out of APE)	Outside of APE
661	661	Rock alignment	Prehistoric	Unknown (out of APE)	Outside of APE
662	662	Intaglio	Prehistoric	Unknown (out of APE)	Outside of APE
880	880	Cleared area; lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
885	885	Cleared areas; lithic scatter; trail segment	Prehistoric	Unknown (out of APE)	Outside of APE
1135	1135	Lithic quarry	Prehistoric	Unknown (out of APE)	Outside of APE
1136	1136	Ceramic scatter	Prehistoric	Moderate to High	Plant Site
1464	1464	Trail segment	Prehistoric	Moderate	Plant Site
1481	1481	Ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2790	2790	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2791	2791	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2792	2792	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2793	2793	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2794	2794	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
2795	2795	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2796	2796	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2844	2844	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2845	2845	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
2846	2846	Lithic quarry	Prehistoric	Moderate to High	Outside of APE
3417	3417	Lithic quarry	Prehistoric	Unknown (out of APE)	Outside of APE
3418	3418	Lithic quarry	Prehistoric	Unknown (out of APE)	Outside of APE
3419	3419	Lithic quarry	Prehistoric	Moderate to High	Plant Site and Utilities Corridor
3671	3671	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
3672	3672	Lithic quarry	Prehistoric	Unknown (out of APE)	Outside of APE
3673	3673	Trail segment with associated lithics	Prehistoric	Unknown (out of APE)	Outside of APE
N/A	3799	Temporary camp	Prehistoric	Unknown (out of APE)	Outside of APE
N/A	4568	Trail segment	Prehistoric	Unknown (out of APE)	Outside of APE
	CA-RIV-5674H	Historic Refuse	Historic	Low	Access Road
8032	5982H	Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE
8135	6045	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
8136	6046	Lithic and ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
8138	6048	Lithic quarry and scatter	Prehistoric	Unknown (out of APE)	Outside of APE
9669	7174H	Historic tent platforms, can scatters, and animal enclosures	Historic	Unknown (out of APE)	Outside of APE
9670		Historic can scatter; isolate – prehistoric biface	Historic and Prehistoric	Low	Outside of APE
9671	7175	Lithic scatter	Prehistoric	Low to moderate	CEC buffer
9672	7176	Ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
9673	7177H	Historic can scatter	Historic	Unknown (out of APE)	Outside of APE
9675	7179	Ceramic scatter; historical tent platforms	Historic and Prehistoric	Unknown (out of APE)	Outside of APE
9676	7180H	Historic foundations and debris scatter		Unknown (out of APE)	Outside of APE
12912		Ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
13310		Fire-affected rock features	Prehistoric	Unknown (out of APE)	Outside of APE
13617		Ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
13672		Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
14150		Historic two-track road	Historic	Unknown (out of APE)	Outside of APE
14175		Ceramic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
17169	8934	Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE
17170	8935	Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
17312	9005	Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE
17315		Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE
17317	9007	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
17318	9008	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
17319	9009	Historic debris scatter	Historic	Unknown (out of APE)	Outside of APE
17320	9010	Lithic scatter	Prehistoric	Unknown (out of APE)	Outside of APE
17323	9011	Historic debris scatter	Historic	Low	Substation
	SMB-H-002	Historical refuse scatter	Historic	Low	Substation
	SMB-H-107	Historical refuse scatter	Historic	Low	CEC buffer
	SMB-H-109	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-110	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-111	Historical refuse scatter and cairns	Historic	Low	CEC buffer
	SMB-H-113	Historical refuse scatter and cairns	Historic	Low	Plant Site
	SMB-H-114	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-115	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-116	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-118	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-119	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-120	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-121	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-122	Historical refuse scatter	Historic	Low	Plant Site

	SMB-H-123	Historical refuse scatter	Historic	Low	Plant Site
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Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-124	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-125	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-126	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-127	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-129	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-130	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-131	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-132	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-133	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-134	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-135	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-136	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-137	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-138	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-139	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-140	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-143	Historical refuse scatter and well	Historic	Moderate	Plant Site
	SMB-H-144	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-145	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-147	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-148	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-151	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-152	Historical refuse scatter	Historic	Low	Plant Site

	SMB-H-153	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-154	Historical refuse scatter	Historic	Low	Plant Site
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-155	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-156	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-157	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-158	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-159	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-161	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-162	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-163	Fortified positions	Historic	Moderate	Plant Site
	SMB-H-164	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-165	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-166	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-167	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-168	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-169	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-170	Historical hearth	Historic	Low	Plant Site
	SMB-H-171	Historical refuse dump	Historic	Moderate	Plant Site
	SMB-H-173	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-175	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-176	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-177	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-178	Historical refuse dump	Historic	Moderate	Plant Site
	SMB-H-179	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-180	Historical refuse scatter	Historic	Low	Plant Site

	SMB-H-181	Historical refuse scatter	Historic	Low	Plant Site
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Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-182	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-183	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-184	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-185	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-186	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-189	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-190	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-191	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-192	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-193	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-194	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-195	Historical refuse scatter	Historic	Low	CEC buffer
	SMB-H-197	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-198	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-199	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-200	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-202	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-203	Historical cleared areas	Historic	Moderate	Plant Site
	SMB-H-204	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-205	Fortified positions	Historic	Moderate	Plant Site
	SMB-H-206	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-207	Fortified positions	Historic	Moderate	Plant Site
	SMB-H-208	Historical refuse scatter	Historic	Low	Plant Site

	SMB-H-209	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-210	Fortified positions	Historic	Moderate	Plant Site
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-212	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-213	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-215	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-216	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-218	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-219	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-220	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-221	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-222	Historical hearth and rock features	Historic	Moderate	Plant Site
	SMB-H-223	Fortified positions	Historic	Moderate	Plant Site
	SMB-H-224	Historical refuse dump	Historic	Moderate	Plant Site
	SMB-H-226	Historical cairns and rock feature	Historic	Low	CEC buffer
	SMB-H-227	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-229	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-230	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-231	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-232	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-233	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-234	Historical refuse scatter and cairn	Historic	Low	Plant Site
	SMB-H-235	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-236	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-243	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-245	Historical refuse scatter and rock features	Historic	Low	Plant Site

	SMB-H-246	Historical refuse scatter	Historic	Low	Plant Site
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Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-247	Historical cleared areas	Historic	Moderate	Plant Site
	SMB-H-248	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-250	Historical cleared area	Historic	Moderate	Plant Site
	SMB-H-251	Historical cleared areas	Historic	Moderate	Plant Site
	SMB-H-253	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-254	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-255	Historical refuse scatter	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-256	Historical refuse scatter	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-257	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-258	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-259	Historical refuse scatter	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-260	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-263	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-265	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-266	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-267	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-268	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-269	Historical refuse dump	Historic	Moderate	Outside of the Project Area
	SMB-H-271	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-274	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-276	Historical refuse scatter	Historic	Low	Outside of the Project

					Area
	SMB-H-279	Historical refuse scatter	Historic	Low	Outside of the Project Area

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-282	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-283	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-284	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-285	Fortified position	Historic	Moderate	Plant Site
	SMB-H-286	Fortified position	Historic	Moderate	Plant Site
	SMB-H-287	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-288	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-290	Historical refuse scatter	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-291	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-401	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-402	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-403	Historical refuse dump	Historic	Moderate	Plant Site
	SMB-H-404	Historical ranch	Historic	Moderate	Plant Site
	SMB-H-406	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-407	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-408	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-409	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-411	Historical cleared area	Historic	Moderate	Plant Site
	SMB-H-413	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-414	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-415	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-416	Historical refuse scatter and wooden ramp	Historic	Low	Plant Site
	SMB-H-417	Historical refuse scatter	Historic	Low	Plant Site

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-418	Historical refuse scatter and hearth	Historic	Low	Plant Site
	SMB-H-419	Historical refuse scatter and wooden ramp	Historic	Low	Plant Site
	SMB-H-420	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-423	Airplane crash site	Historic	Moderate	Plant Site
	SMB-H-424	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-426	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-427	Historical refuse dump	Historic	Moderate	Plant Site
	SMB-H-430	Historical refuse dump	Historic	Low	CEC buffer
	SMB-H-432	Historical structure foundation	Historic	Low	Plant Site
	SMB-H-439	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-442	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-444	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-447	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-450	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-452	Historical refuse scatter and hearth	Historic	Low	Outside of the Project Area
	SMB-H-460	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-505	Historical refuse scatter	Historic	Low	CEC buffer
	SMB-H-507	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-508	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-509	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-513	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-514	Historical refuse scatter and features	Historic	Moderate	Plant Site
	SMB-H-515	Historical refuse scatter	Historic	Low	Outside of the Project Area

	SMB-H-516	Historical refuse scatter	Historic	Low	Outside of the Project Area
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-517	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-518	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-519	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-520	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-527	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-528	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-529	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-600	Historical road	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-601	Historical road	Historic	Low	Plant Site
	SMB-H-701	Historical refuse scatter	Historic	Low	Outside of the Project Area
	SMB-H-702	Historical refuse scatter	Historic	Low	Utilities Corridor
	SMB-H-809	Historical refuse scatter	Historic	moderate	Plant Site
	SMB-H-813	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-815	Historical refuse scatter	Historic	Low to moderate	Plant Site
	SMB-H-817	Historical refuse scatter	Historic	Low	Plant Site & Transmission Line Corridor
	SMB-H-820	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-821	Historical refuse scatter and fortified positions	Historic	Low	Plant Site
	SMB-H-824	Historical refuse scatter	Historic	Low	Plant Site & Transmission Line Corridor
	SMB-H-827	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-828	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-829	Historical refuse scatter	Historic	Low to moderate	Plant Site

	SMB-H-830	Historical refuse scatter	Historic	Low	Plant Site
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Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-831	Historical refuse scatter	Historic	Low to moderate	Plant Site
	SMB-H-832	Historical refuse scatter and fortified positions	Historic	Low	Plant Site
	SMB-H-833	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-834	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-836	Historical refuse scatter and fortified positions	Historic	Low	Plant Site
	SMB-H-837	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site
	SMB-H-843	Historical refuse scatter	Historic		Plant Site
	SMB-H-847	Historical refuse scatter	Historic		CEC buffer
	SMB-H-849	Historical refuse scatter	Historic	Low to moderate	Plant Site
	SMB-M-850	Lithic scatter with historical refuse scatter	Historic and Prehistoric		Plant Site
	SMB-M-851	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low to moderate	Plant Site
	SMB-H-854/856	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-855	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-860	Historical refuse scatter	Historic	Low	Plant Site & Utilities Corridor
	SMB-H-861	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site & Utilities Corridor
	SMB-H-866	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site
	SMB-H-867	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-902	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-906	Historical refuse scatter	Historic	Low to moderate	Plant Site
	SMB-H-907	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-908	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-913	Historical refuse scatter and fortified positions	Historic	Low	Plant Site
	SMB-H-917	Historical refuse scatter	Historic	Low	CEC buffer

	SMB-H-918	Historical refuse scatter	Historic	Low	Plant Site
	SMB-H-919	Military campsite	Historic	Low	CEC buffer

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-H-926	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site
	SMB-H-927	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site
	SMB-H-928	Tent pad	Historic	Low	Plant Site
	SMB-H-929	Historical refuse scatter and fortified positions	Historic	Low to moderate	Plant Site
	SMB-H-935	Refuse Scatter	Historic	Low	Plant Site
	SMB-H-937	Refuse Scatter	Historic	Low to Moderate	Plant Site
	SMB-H-939	Fortified positions	Historic	Low	Plant Site
	SMB-H-940	Pit/Depression Features	Historic	Low	CEC buffer
	SMB-H-941	Refuse Scatter	Historic	Low	Plant Site
	SMB-H-943	Refuse Scatter	Historic	Low to Moderate	Plant Site
	SMB-H-CT-003	Lithic Reduction Locus/Historic Refuse Scatter	Historic	Low to Moderate	CEC buffer
	SMB-H-JR-101	Refuse Scatter	Historic	Low	CEC buffer
	SMB-H-LK-101	Refuse Scatter	Historic	Moderate	Transmission Line Corridor
	SMB-H-LK-105	Refuse Scatter	Historic	Low to Moderate	Transmission Line Corridor
	SMB-H-LK-106	Refuse Scatter	Historic	Low to Moderate	Transmission Line Corridor
	SMB-H-LK-201	Military Foxhole	Historic	Low to Moderate	CEC buffer
	SMB-H-LK-501	Military Foxholes	Historic	Low to Moderate	Plant Site
	SMB-H-MT-002	Lithic scatter with historical refuse scatter	Historic	Moderate	Utilities Corridor
	SMB-H-TC-102	Refuse Scatter	Historic	Low	Utilities Corridor
	SMB-H-TC-104	Refuse Scatter	Historic	Low	Utilities Corridor
	SMB-H-WG-101	Refuse Scatter	Historic	Low to Moderate	Utilities Corridor

	SMB-M-214	Thermal cobble feature and can	Historic and Prehistoric	Moderate	Plant Site
	SMB-M-261(262)	Historic refuse and lithic scatter	Historic and Prehistoric	Low	Utilities Corridor
	SMB-M-511	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Moderate	Outside of the Project Area
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-M-512	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Outside of the Project Area
	SMB-M-522(525)	Historical refuse dump & lithic scatter	Historic and Prehistoric	Low	Utilities Corridor & Transmission Line Corridor
	SMB-M-805	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low to moderate	Plant Site
	SMB-M-806	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low to moderate	Plant Site & Transmission Line Corridor
	SMB-M-816	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-818	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-822	Groundstone with historical refuse	Historic and Prehistoric	Low to moderate	Plant Site
	SMB-M-823	Lithic scatter with fortified positions	Historic and Prehistoric	Low	Plant Site
	SMB-M-825	Historic hearth and lithic scatter	Historic and Prehistoric	Low	Transmission Line Corridor
	SMB-M-826	Historic hearth and lithic scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-857	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-859	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-864	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-903	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-904	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-909	Lithic scatter with military components	Historic and Prehistoric	Low	Plant Site
	SMB-M-910	Fortified positions, tent pad and sparse lithic scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-912	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site

	SMB-M-914	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-915	fortified positions and lithic scatter	Historic and Prehistoric	Low	Plant Site

Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-M-916	fortified positions and lithic scatter	Historic and Prehistoric	Low to moderate	Plant Site
	SMB-M-924	fortified positions and lithic scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-925	fortified positions and lithic scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-930	fortified positions and lithic scatter	Historic and Prehistoric	Moderate	Plant Site
	SMB-M-934	Lithic scatter with military components	Historic and Prehistoric	Low	Plant Site
	SMB-M-936	fortified positions and lithic scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-CT-001	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Utilities Corridor
	SMB-M-JR-140	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Plant Site
	SMB-M-LK-102	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Transmission Line Corridor
	SMB-M-LK-103	Lithic scatter with historical refuse scatter	Historic and Prehistoric	Low	Transmission Line Corridor
	SMB-M-LK-104	fortified positions and lithic scatter	Historic and Prehistoric	Low	Transmission Line Corridor
	SMB-M-TC-101	historic refuse with sparse lithics and ceramics	Historic and Prehistoric	Low	Utilities Corridor
	SMB-M-TC-103	historic refuse with groundstone	Historic and Prehistoric	Low	Utilities Corridor
	SMB-M-WG-102	historic refuse with ceramics	Historic and Prehistoric	Low	Utilities Corridor
	SMB-P-160	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-228	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-237	Lithic scatter	Prehistoric	Low	Outside of the Project Area
	SMB-P-238	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-241	Lithic scatter and cairn	Prehistoric	Moderate to High	Plant Site
	SMB-P-242	Lithic scatter	Prehistoric	Low	Outside of the Project Area

	SMB-P-244	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-249	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-252	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-270	Lithic scatter and cairn	Prehistoric	Low	Outside of the Project Area
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-P-272	Lithic scatter	Prehistoric	Moderate	Outside of the Project Area
	SMB-P-275	Lithic scatter	Prehistoric	Moderate	Outside of the Project Area
	SMB-P-410	Trail	Prehistoric	Low	Plant Site
	SMB-P-434	Thermal cobble features	Prehistoric	Moderate to High	Plant Site
	SMB-P-435	Thermal cobble features	Prehistoric	Low	Outside of the Project Area
	SMB-P-436	Thermal cobble features	Prehistoric	Moderate to High	Plant Site
	SMB-P-437	Thermal cobble feature	Prehistoric	Moderate to High	Plant Site
	SMB-P-438	Thermal cobble feature	Prehistoric	Moderate to High	Plant Site
	SMB-P-440	Thermal cobble feature	Prehistoric	Moderate to High	Plant Site
	SMB-P-441	Thermal cobble features	Prehistoric	Moderate to High	Plant Site
	SMB-P-445	Lithic scatter and thermal cobble feature	Prehistoric	Moderate to High	Utilities Corridor
	SMB-P-448	Thermal cobble feature	Prehistoric	Moderate to High	Outside of the Project Area
	SMB-P-453	Lithic scatter	Prehistoric	Moderate	Outside of the Project Area
	SMB-P-454	Thermal cobble feature and ceramic scatter	Prehistoric	Moderate to High	Outside of the Project Area
	SMB-P-530	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-531	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-532	Lithic scatter	Prehistoric	Moderate	Plant Site
	SMB-P-901	Lithic scatter	Prehistoric	Low	CEC buffer
	SMB-P-905	Lithic scatter	Prehistoric	Low to Moderate	Plant Site
	SMB-P-920	Lithic scatter	Prehistoric	Low	CEC buffer

	SMB-P-921	Lithic scatter	Prehistoric	Low	Plant Site
	SMB-P-922	Lithic scatter	Prehistoric	Low	Plant Site
	SMB-P-942	Lithic scatter	Prehistoric	Low to Moderate	Plant Site
Primary No.	Site No.	Site Type	Cultural Context	Potential for Buried Deposits Based on Geomorphologic Information	Project Area Location
	SMB-P-944	Lithic scatter	Prehistoric	Low	Plant Site
	SMB-P-946	Lithic scatter	Prehistoric	Low	Plant Site
	SMB-P-947	Lithic scatter	Prehistoric	Low to Moderate	Plant Site

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APPENDIX I: DOCUMENTATION OF TRIBAL CONSULTATION

Originator	Date	time	from	to	location	medium	Subj.
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chwmn. Mary Resvaloso (Torres-Martinez DCI)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Timothy Williams (Ft. Mojave Tribal Council)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Darrell Mike, (29Palms BMI)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Richard Milanovich, (Agua Caliente BMI)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chprsn. Maryann Green (Augustine BMI)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn John James (Cabazon BMI)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Charles Wood, (Chemehuevi TC)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Eldred Enas, (Colorado River TC)		cert Ltr.	Initial consultation
	7/1/2009		J.Kalish, C.Dalu BLM PSSCFO	Pres. Michael Jackson, (Ft. Yuma TC)		cert Ltr.	Initial consultation
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Robert Martin (Morongo)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. James Ramos (San Manuel BMI)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chwmn Mary Resvaloso (Torres-Martines DCI)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Timothy Williams (Ft. Mojave Tribal Council)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Darrell Mike, (29Palms BMI)		cert Ltr.	Fed reg. NOI

Originator	Date	time	from	to	location	medium	Subj.
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Richard Milanovich, (Agua Caliente BMI)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chprs. Maryann Green (Augustine BMI)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn John James (Cabazon BMI)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Charles Wood, (Chemehuevi TC)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Chmn. Eldred Enas, (Colorado River TC)		cert Ltr.	Fed reg. NOI
	11/23/2009		J.Kalish, C.Dalu BLM PSSCFO	Pres. Michael Jackson, (Ft. Yuma TC)		cert Ltr.	Fed reg. NOI
	1/25/10	8:00am	WAPA BLM CEC ESA		Blythe	meeting	Environ. Scoping Meeting and site visit
	2/3/10	10:00am	CEC	CEC	BLM palm Sprs.	meeting	SA/Deis Genesis
Quechan	2/10/10	10:00	Quechan/BLM	BLM	Winterhaven	meeting	Present project information (all proj's)
CEC	2/16/10	13:30	CEC/BLM	BLM	BLM P.S.	meeting	Genesis tele conf.
	2/16/10		Pres. Michael Jackson (Ft. Yuma Quechan)	John Kalish (PSSCFO)		letter	states concerns over time- frames of solar projects
	2/18/10	7:17	G.Kline, BLM	P.Pinon (circle)		e-mail	Kokopelli Site visit.
	2/18/10	13:59	G.Kline, BLM	P.Pinon (circle)		e-mail	Kokopelli Site visit.
	2/19/10	3:43	G.Kline BLM	Patti Pinion (Circle)		e-mail	Plan site visit Blythe (Kokopelli)
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Robert Martin (Morongo)		cert. letter	Intent to develop PA for Sect. 106 reqmt.
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. James Ramos (San Manuel BMI)		cert. letter	Intent to develop PA for Sect. 106 reqmt.
Originator	Date	time	from	to	location	medium	Subj.

	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chwmn Mary Resvaloso (Torres-Martines DCI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Timothy Williams (Ft. Mojave Tribal Council)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Darrell Mike, (29Palms BMI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Richard Milanovich, (Agua Caliente BMI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Dir. Patricia Tuck THPO (Agua Caliente BMI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chprsn. Maryann Green (Augustine BMI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn John James (Cabazon BMI)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Charles Wood, (Chemehuevi TC)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chwmn Sherry Cordova (Cocopah TC)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Eldred Enas, (Colorado River TC)		cert. letter	
	2/19/10		J.Kalish, G.Kline BLM PSSCFO	Pres. Michael Jackson, (Ft. Yuma TC)		cert. letter	
	3/1/10	7:54	G.Kline BLM	Patti Pinion (Circle)		e-mail	Visit Kokopelli site (meeting place)
circle	3/2/10	10:00am	Circle	Patti Pinon, Alfredo Figueroa, John Kalish, G.Kline, et.al.	Blythe	meeting	Visit Kokopelli site (and others)
Originator	Date	time	from	to	location	medium	Subj.

	3/3/10	4:42	G.Kline, BLM	Patti Pinon, Circle		e-mail	Thanks for tour and hospitality at Kokopelli site visit
	3/10/10		Chmn. Charles Wood, (Chemehuevi)	John Kalish (PSSCFO)			
	3/11/2010	9:01	Nancy Brown (ACHP)	G. Kline, BLM		e-mail	Ltr dtd. 3/11/2010 - ACHP not participating in the PA
SCA	3/18/10	1:30pm	Agua Caliente	Patty Tuck	Riverside Convention Center	meeting	Discussed coming events, current issues
G.Kline	3/24/10	12:40	G.Kline, BLM	A.Brierty, San Man.		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	B. Nash, Ft.Yuma Quechan		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	A.Madrigal Sr.San Man		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	A.Madrigal Jr. 29Palms		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	S.Milanovich, Agua Caliente		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	L. Otero Ft. Mojave		e-mail	CEC Public Workshop meeting notification
G.Kline	3/24/10	12:40	G.Kline, BLM	P.Tuck, Agua Caliente		e-mail	CEC Public Workshop meeting notification
	3/25/2010	18:32	Ann Brierty, San Man.	G. Kline, BLM		e-mail	announcement of Tribal renewable energy symposium
	3/26/2010	13:39	G.Kline, BLM	Ann Brierty, San. Man.		e-mail	Req. seat at the Tribal Symposium on renewable energy
	3/26/2010	16:34	Ann Brierty, San Man.	G. Kline, BLM		e-mail	Confirmed attendance at planned Native American Tribes Symposium on renewable energy

Originator	Date	time	from	to	location	medium	Subj.
	3/29/2010	7:23	G.Kline BLM	Ann Brierty, San. Man.		e-mail	information on all solar projects
29 Palms	3/29/2010	9:22	A. Madrigal Jr., 29 Palms BMI	G. Kline, BLM		e-mail	Wishes to participate in PA development for the Blythe, Palen, and Genesis projects
Sol. Millennium	3/30/10	13:30-15:00	Alice Harron/Sol. Millennium	S.Weidlich, and A. Keller of AECOM; G. Kline, BLM; B. Nash-Chrabasz, W. Scott, P. Jose, Agua Caliente	Quechan Tribal Headquarters	meeting	Informational meeting on the technology and cultural resources for Blythe and Palen Projects.
G.Kline	4/2/10	14:24	G. Kline BLM	B. Nash, Ft. Yuma		e-mail	PA Kick-off and other solar issues
G.Kline	4/2/10	15:37	G.Kline BLM	S. Milanovich, Agua Caliente		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	P.Tuck Agua Caliente		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	A. Brierty, San Man. BMI		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	A.Madrigal Jr. 29 palms		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	A. Madrigal Sr. San Man		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	J.Ontiveros, Soboba		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	L.Otero Ft.Mojave		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	Manfred Scott Ft. Yuma		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	Colorado R. Indian Tribes		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/2/10	15:37	G.Kline BLM	Eldred Enas (CRIT Chair)		e-mail	Notification of the PA Kick-off meeting
G.Kline	4/5/10	8:18	G.Kline	Ann Brierty, San Man.		e-mail	PA Kick-off announcement meeting date established
G.Kline	4/5/10	8:18	G.Kline	M. Levias, Sr. Chemehuevi		e-mail	PA Kick-off announcement meeting date established

G.Kline	4/5/10	8:18	G.Kline	B. Nash, Ft. Yuma		e-mail	PA Kick-off announcement meeting date established
Originator	Date	time	from	to	location	medium	Subj.
G.Kline	4/5/10	8:18	G.Kline	A. Madrigal Sr., San.Man		e-mail	PA Kick-off announcement meeting date established
G.Kline	4/5/10	8:18	G.Kline	Linda Otero, Ft. Mojave		e-mail	PA Kick-off announcement meeting date established
G.Kline	4/5/10	8:18	G.Kline	P. Tuck, Agua Caliente		e-mail	PA Kick-off announcement meeting date established
G.Kline	4/5/10	12:45	G.Kline	A.Brierty San Man.		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	A. Madrigal Sr. San Man.		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	A. Madrigal Jr. 29 Palms		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	J.Ontiveros, Soboba		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	B.Nash Ft. Yuma Quechan		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	M. Levias Chemehuevi		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	S. Milanovich, Agua Caliente		e-mail	more meeting details...
	4/5/10	12:45	G.Kline	L.Otero Ft.Mojave		e-mail	more meeting details...
G.Kline	4/5/10	12:55	G.Kline	J.Ontiveros, Soboba		e-mail	answered questions re: PA Meeting
	4/5/10	13:45	S. Milanovich, Agua Caliente	G.Kline BLM		e-mail	Question re: Notification of the PA Kick-Off Meeting
	4/5/10	14:52	G.Kline BLM	S. Milanovich, Agua Caliente		e-mail	Answered questions about PA meeting content.
G.Kline	4/5/10	12:55	G.Kline	J.Ontiveros, Soboba		e-mail	answered questions re: PA Meeting

	4/5/10	13:45	S. Milanovich, Agua Caliente	G.Kline BLM		e-mail	Question re: Notification of the PA Kick-Off Meeting
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Originator	Date	time	from	to	location	medium	Subj.
	4/5/10	14:52	G.Kline BLM	S. Milanovich, Agua Caliente		e-mail	Answered questions about PA meeting content.
G. Kline	4/6/10	9:50	G.Kline, BLM	Joe Ontiveros, Soboba		telephone	Will participate in PA, discussed meeting details for the April 23rd meeting.
G. Kline	4/6/10	9:50		Joe Ontiveros, Soboba		e-mail	Will participate in PA, discussed meeting details for the April 23rd meeting.
	4/6/10	10:01	G.Kline, BLM	B.Nash Ft. Yuma Quechan		e-mail	Rice WAPA Meeting
G. Kline	4/6/10	11:16	G.Kline BLM	Joe Ontiveros, Soboba		e-mail	Solar Project meetings sched. In the next few weeks...
G. Kline	4/6/10	13:11	G.Kline BLM	A. Brierty, San Man. BMI		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	M. Levias Chemehuevi		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	J.Ontiveros, Soboba		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	B.Nash Ft. Yuma Quechan		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	A. Madrigal Sr. San Man.		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	A. Madrigal Jr. 29 Palms		e-mail	Solar proj. PA Kick-off announcement
G. Kline	4/6/10	13:11	G.Kline BLM	S. Milanovich, Agua Caliente		e-mail	Solar proj. PA Kick-off announcement

G. Kline	4/6/10	13:11	G.Kline BLM	L.Otero Ft.Mojave		e-mail	Solar proj. PA Kick-off announcement
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Originator	Date	time	from	to	location	medium	Subj.
G. Kline	4/6/10	13:11	G.Kline BLM	P.Tuck, Agua Caliente		e-mail	Solar proj. PA Kick-off announcement
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Robert Martin (Morongo)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. James Ramos (San Manuel BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chwmn Mary Resvaloso (Torres-Martines DCI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Timothy Williams (Ft. Mojave Tribal Council)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Darrell Mike, (29Palms BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Richard Milanovich, (Agua Caliente BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Dir. Patricia Tuck THPO (Agua Caliente BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chprsn. Maryann Green (Augustine BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn John James (Cabazon BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Charles Wood, (Chemehuevi TC)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chwmn. Sherry Cordova (Cocopah TC)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Eldred Enas, (Colorado River TC)		cert. letter	Solar proj. PA Kick-off announcement letter

	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Pres. Michael Jackson, (Ft. Yuma TC)		cert. letter	Solar proj. PA Kick-off announcement letter
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Originator	Date	time	from	to	location	medium	Subj.
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Chmn. Manuel Hamilon, (Ramona BMI)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Act. Chwmn. Rosemary Morillo (Soboba)		cert. letter	Solar proj. PA Kick-off announcement letter
	4/9/10		J.Kalish, G.Kline BLM PSSCFO	Rachael E. Koss (CURE)		cert. letter	Solar proj. PA Kick-off announcement letter
G. Kline	4/20/10	10:32	29 Palms BMI	Anthony Madrigal Jr.		telephone	Will attend Kick-off meeting
G. Kline	4/20/10	10:44	Agua Caliente BCI	Patti Tuck THPO		telephone	Will attend Kick-off meeting
Cabazon	4/20/10	12:55	Cabazon BMI	Judy Stapp		telephone	Returned Telephone Message, Will not attend PA Kick-off meeting
G. Kline	4/21/10	10:40	San Manuel BMI	Ann Brierty		telephone	Will not be able to attend PA Kick-off, but requests follow- up info.
G. Kline	4/21/10	11:20	Augustine BMI	David Saldivar		telephone	Will not be attending PA Kick-off Mtg.
G. Kline	4/21/10	11:31	Chemehuevi T. C.	Charles Wood (Office)		telephone	Will not be attending PA Kick-off Mtg.
G. Kline	4/21/10	2:44	CURE	Rachael Koss		telephone	Left Msg inq. Attendance at PA Kick-off.
San Man	4/22/10	4:23pm	San Manuel BMI	Anthony Madrigal		e-mail	Plans to Attend PA Mtg
G. Kline	4/23/10	9:30-16:00	BLM staff	A. Madrigal Jr, 29 Palms A. Madrigal Sr. San Manuel, P.Tuck, Agual Caliente	UCR Rivside	meeting	PA Kickoff meeting
CEC	4/26/10	13:15	G.Kline BLM	P.Tuck, Agua Caliente		e-mail	relay notice of meeting RE: SA/DEIS Workshop

CEC	4/26/10	13:15	G.Kline BLM	A. Brierty, San Man. BMI		e-mail	relay notice of meeting RE: SA/DEIS Workshop
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Originator	Date	time	from	to	location	medium	Subj.
CEC	4/26/10	13:15	G.Kline BLM	M. Levias Chemehuevi		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	B.Nash Ft. Yuma Quechan		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	A. Madrigal Jr. 29 Palms		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	A. Madrigal Sr. San Man.		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	S. Milanovich, Agua Caliente		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	J.Ontiveros, Soboba		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/26/10	13:15	G.Kline BLM	L.Otero Ft.Mojave		e-mail	relay notice of meeting RE: SA/DEIS Workshop
CEC	4/28/10	9:00 - 17:00	CEC	P.Tuck, Agua Caliente B. Nash, Ft. Yuma(via tel.) A.Brierty San.Man G.Kline, BLM also: CEC, AECOM.	BLM, PS	meeting	CEC SA/DEIS Workshop
CEC	4/29/10	9:00 - 17:00	CEC	P.Tuck, Agua Caliente B. Nash, Ft. Yuma(via tel.) A.Brierty San.Man G.Kline, BLM also: CEC, AECOM.	BLM, PS	meeting	CEC SA/DEIS Workshop
Agua Cal.	5/17/10	12:59	Agua Caliente BCI	Patti Tuck THPO		e-mail	Send cult reports via FTP (Blythe, Palen, Ford DL.)
P.Tuck	5/17/10	12:59	P.Tuck Agua Caliente BCI	G.Kline BLM		e-mail	set up FTP for transferring cult report
G. Kline	5/24/10	1:10pm	Agua Caliente BCI	Patti Tuck THPO		T&E	Send cult reports via FTP (Blythe, Palen, Ford DL.)

Sol. Millennium	5/25/10	9:30-14:00	Alice Harron/Sol. Millennium	S.Weidlich, and M. Tennyson (AECOM) J. Kalish, and G. Kline, BLM P.Tuck and S. Milanovich, Agua Caliente	BLM Palm Sprs.	meeting	Informational meeting on the technology and cultural resources for Blythe and Palen Projects.
Originator	Date	time	from	to	location	medium	Subj.
P.Tuck	5/26/10	10:42	P.Tuck, Agua Caliente	S. Weidlich M. Tennyson (AECOM) A. Harron (Sol mill.) G.Kline, BLM		e-mail	req. additional info from previous day's meeting.
G. Kline	5/24/10	1:10pm	Agua Caliente BCI	Patti Tuck THPO		T&E	Send cult reports via FTP (Blythe, Palen, Ford DL.)
P.Tuck	5/24/10	13:11	P.Tuck Agua Caliente BCI	G.Kline BLM et. al.		e-mail	Question re; CEQA/CEC
G.Kline	5/27/10	12:20	G. Kline BLM	P. Tuck, Agua Caliente		e-mail	Answers to meeting questions and requested information.
	6/1/10	1:20	P.Tuck Agua Caliente BCI	G. Kline, BLM		e-mail	verification of receipt of Cultural reports
P.Tuck	6/1/10	1:23	P.Tuck Agua Caliente BCI	G. Kline, BLM		e-mail	further verification of receipt of Cultural reports
	6/7/10	2:11	B.Nash Ft. Yuma Quechan	G.Kline BLM		e-mail	have not received reports for Genesis and Palen
G.Kline	6/7/10	3:26	G. Kline BLM	B.Nash Ft. Yuma Quechan		e-mail	Reports in the Mail
G.Kline	6/8/10	8:17	G.Kline	B.Nash Ft. Yuma Quechan		e-mail	notification of sending Palen and Genesis reports via USPS
B.Nash	6/8/10	8:20	B.Nash Ft. Yuma Quechan	G.Kline BLM		e-mail	question on Blythe (report) Isolates
G.Kline	6/8/10	12:27	G. Kline BLM	B.Nash Ft. Yuma Quechan		e-mail	answer to isolate Question in Blythe cultural report.
P.Tuck	6/10/10	12:39	P.Tuck Agua Caliente BCI	G. Kline		e-mail	Provide Palen Cult. Report
B. Nash	6/15/10	8:49	B. Nash, Ft. Yuma Quechan	G. Kline		e-mail	Confirmation of Palen and

							Genesis reports rec'd.
B. Nash	6/21/10	10:45	B. Nash, Ft. Yuma Quechan	G. Kline		e-mail	Request for Blythe Cult. Res. maps

Originator	Date	time	from	to	location	medium	Subj.
G.Kline	6/23/10	2:13	G. Kline BLM	P.Tuck, Agua Caliente BCI		e-mail	Sent Blythe, palen, and Genesis PAs
B. Nash	6/24/10	9:20	B. Nash, Ft. Yuma Quechan	G. Kline		e-mail	Confirmation of receipt of maps.
B.Nash	6/28/10	3:43	B. Nash, Ft. Yuma Quechan	G. Kline		e-mail	Request for site visit to Blythe (thermal Cobble features)
B. Nash	7/7/2010	1:41	B. Nash Ft. Yuma Quechan	G. Kline BLM		e-mail	Schedule Blythe Site Visit on Aug. 5th
B. Nash	8/3/2010	3:57	B. Nash Ft. Yuma Quechan	G. Kline BLM		e-mail	Particulars on Blythe Site Visit on Aug. 5th
C. Wood Chemehuevi Tr. Chair.	8/16/2010	9:30 to 12:00			Havasu Lk., CA	Govt. to Govt. Consult/Meeting	Discuss Fast Track and other Solar Projects.
P. Tuck	8/16/2010	2:12	P. Tuck	G. Kline		e-mail	Forwarding maps and cult report CD from AECOM
P. Tuck	8/24/2010	8:43	P. Tuck	G. Kline		e- Mail	Pick-up maps and CD>
S. Milanovich	9/2/2010	9:15	Fwd. S. Milanovich, Agua Caliente	G. Kline		e-mail	Robert Lundahl Opposition to Project.
BLM	9/7/2010	9:30-3:30		Riv. County, BLM, Ft. Yuma Quechan and Ft. Mojave Tr.	Holiday Inn Express, Blythe	Govt. to Govt. Consult/Meeting	Discuss Comm Site and Solar Projects
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman John James, Cabazon BMI		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairwoman Sherry Cordova, Cocopah Tribal Council		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman James Ramos, San		Letter	Draft PA and Request

				Manuel Band of Mission Indians			/Invitation to provide comments.
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Originator	Date	time	from	to	location	medium	Subj.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Eldred Enas, Colorado Tribal Council		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairperson Maryann Green, Augustine Band of Mission Indians		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Robert Martin, Morongo Band of Mission Indians		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Richard Milanovich, Agua Caliente Band of Cahuilla Indians		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Darrell Mike, Twenty-Nine Palms Band of Mission Indians		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Charles Wood, Chemehuevi Tribal Council		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	President Michael Jackson, Ft. Yuma Quechan Tribe		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairman Robert Martin, Morongo Band of Mission Indians		Letter	Draft PA and Request /Invitation to provide comments.
J. Kalish BLM	6/16/2010		BLM PSSCFO	Chairwoman Mary Resvaloso, Torres-Martinez Desert		Letter	Draft PA and Request /Invitation to provide

				Cahuilla Indians			comments.
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APPENDIX J: EXAMPLE MONITORING AND DISCOVERY PLAN

**DRAFT EXAMPLE
MONITORING AND DISCOVERY PLAN**

**IMPERIAL VALLEY SOLAR PROJECT
IMPERIAL COUNTY, CALIFORNIA**

Submitted to:

Bureau of Land Management

1661 South 4th Street

El Centro, CA 92243

Prepared by:

LSA Associates, Inc.

703 Palomar Airport Road Suite 260

Carlsbad, California 92011

(760) 931-5471

May 26, 2010

And

Supplemented by AECOM

1420 Kettner Boulevard, Suite 500

San Diego, CA 92101

(619) 233-1454

August 13, 2010

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INTRODUCTION

Tessera Solar is proposing to construct the Imperial Valley Solar Project (IVSP or Project) in Imperial County on lands under the jurisdiction of the Bureau of Land Management (BLM), and cultural resources have been documented in the Project's area of potential effects (APE). Efforts are being made to design the Project to avoid known cultural resources eligible for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR). The following will be discussed in this Monitoring and Discovery Plan:

- The measures necessary to avoid potential impacts to recorded cultural resources, including Environmentally Sensitive Areas (ESAs)
- Professional standards
- Monitoring plan
- Discovery plan
- Avoidance/protection procedures
- Cultural resources training
- Curation

The entire surface of the APE of the proposed Project has been surveyed. Multiple prehistoric and historic resources have been identified.

PROJECT DESCRIPTION

The IIVSP will construct a proposed 750-megawatt (MW) solar energy plant on approximately 6,500 acres of public lands in California administered by BLM California Desert District and the El Centro Field Office. Imperial Valley Solar will use existing roads and construct new roads in the Project area.

The Project is located in western Imperial County, California, immediately east of the town of Ocotillo, west of the town of Seeley, and north and south of Interstate 8 (I-8). The Project will utilize the SunCatcher technology of Stirling Energy Services. Each SunCatcher consists of a 25-kilowatt solar power electric-generating system. The system is designed to track the sun automatically and to focus solar energy onto a Power Conversion Unit, which generates electricity. The system consists of an approximate 38-foot-high by 40-foot-wide solar concentrator dish that supports an array of curved glass mirror facets. The 300-MW Phase I of the Project will consist of approximately

12,000 SunCatchers. The 450-MW Phase II portion of the Project will include approximately 18,000 SunCatchers.

The Project will include the construction of a new 230-kilovolt (kV) substation approximately in the center of the Project. A Main Services Complex, where key buildings and parking areas will be located, will be constructed at the northeastern end of the Phase I Project. Main roads will be constructed with a combination of roadway dips and elevated sections across the dry washes on the Project.

The full Phase II expansion of the Project will require the construction of the 500-kV Sunrise Powerlink transmission line that San Diego Gas & Electric (SDG&E) has proposed. A 230-kV transmission line that will be built for Phase I will parallel the current transmission line corridor for the Southwest Powerlink transmission line within the existing right-of-way (ROW). The main entry for truck traffic to the Project during construction will be from I-8 to the Project entrance on Evan Hewes Highway. During Project operation, the secondary and emergency access will be from Dunaway Road.

REGULATORY CONTEXT

The proposed Project requires authorization and issuance of an ROW grant by BLM. The proposed Project is a federal undertaking. Therefore, compliance with 36 Code of Federal Regulations (CFR) Part 800, regulations implementing the National Historic Preservation Act (as amended), is required. In addition, BLM and the California Energy Commission (CEC), together, have prepared the *Staff Assessment and Draft Environmental Impact Statement and Draft California Desert Conservation Area Plan Amendment, SES Solar Two Project, and Application for Certification (08-AFC-5) Imperial County (2010)* to identify Project alternatives for purposes of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and have comparatively examined the relative effects of the alternatives on known historic properties. Therefore, cultural resources on the Project are evaluated subject to criteria of both the federal NRHP and CEQA CRHR. As the Project may have an adverse effect on historic properties (resources eligible for or listed in the NRHP and/or CRHR), BLM prepared a Programmatic Agreement (PA) stipulating measures that will be implemented prior to construction. The preparation of a Monitoring and Discovery Plan is stipulated in the PA.

PROFESSIONAL QUALIFICATIONS

BLM shall ensure that all work is under the supervision of personnel meeting the *Secretary of the Interior's Standards and Guidelines* (as amended and annotated), *Professional Qualifications Standards*. The requirements are those used by the National Park Service, and have been previously published in the Code of Federal Regulations (36 CFR Part 61). The qualifications define minimum education and experience required to perform identification, evaluation, registration, and treatment activities. BLM shall obtain résumés of prospective consultants and verify credentials of supervisory personnel and staff, as necessary.

ARCHAEOLOGY

The minimum professional qualifications for supervisory personnel in archaeology shall be a graduate degree in archaeology, anthropology, or closely related field plus the following:

- At least 1 year of full-time professional experience or equivalent specialized training in archaeological research, administration, or management;
- At least 4 months of supervised field and analytic experience in general North American archaeology; and
- Demonstrated ability to carry research to completion.

In addition to these minimum qualifications, a professional in prehistoric archaeology shall have at least 1 year of full-time professional experience at a supervisory level in the study of archaeological resources of the prehistoric period. A professional in historic archaeology shall have at least 1 year of full-time professional experience at a supervisory level in the study of archaeological resources of the historic period.

KEY PERSONNEL

Personnel involved in the archaeological monitoring, testing, and data recovery efforts will be responsible primarily for conducting the monitoring; archaeological fieldwork and laboratory analysis; report preparation; and (as necessary) coordination with BLM, construction contractors, and Native American consultants. The responsibilities of key personnel are outlined below.

PRINCIPAL INVESTIGATOR/CULTURAL RESOURCES SPECIALIST

The Principal Investigator (PI)/Cultural Resources Specialist (CRS) will have overall responsibility for the testing and data recovery investigations and will be the primary point of contact between the archaeological consultant and BLM for these programs. The PI will also be responsible for the analysis and the overall quality of the technical report of these investigations. The PI will meet the Secretary of the Interior's Qualification Standards for Archaeologists and be on the BLM Cultural Resources Use Permit.

MONITORING SUPERVISOR

The Monitoring Supervisor will have overall responsibility for the cultural resources monitoring program and will be the primary point of contact between the archaeological consultant and BLM for this program. The Monitoring Supervisor will also be responsible for the content and the overall quality of the monitoring report. The Monitoring Supervisor will meet the Secretary of the Interior's Qualification Standards for Archaeologists.

FIELD MONITORS

Field monitors will conduct the daily archaeological construction monitoring and will be responsible for making the initial discoveries, subsequent initial notifications, equipment

diversions, preparing daily monitoring notes and logs, and recording and mapping for initial discovery documentation.

FIELD DIRECTOR

The Field Director will be responsible for the day-to-day activities of the testing and data recovery investigations, including management of field personnel and coordination of crews. The Field Director will also be responsible for compiling and ensuring the quality of the field data on a daily basis. Additionally, the Field Director will coordinate the work of subconsultants or other contractors participating in the archaeological field investigations, and will be responsible for implementing the requirements of the Health and Safety Plan, including daily safety briefings. The Field Director will also meet the Secretary of the Interior's Qualification Standards for Archaeologists and be on the Cultural Uses Permit.

CREW CHIEFS

The Crew Chiefs will, in consultation with the Field Director, be responsible for implementing the field strategies at individual sites. The Crew Chief will direct field crew, lay out excavations, and compile collections and field documentation on a daily basis. Additionally, the Crew Chief will be responsible for implementing on-site safety procedures.

FIELD CREW

Field crew members will conduct surface examinations and hand excavations, and monitor mechanical test investigation excavations. Each crew member will operate under the direct supervision of the Crew Chief and will conduct basic documentation of field operations, including completing excavation-level records, bag labeling, and trench monitoring forms.

LABORATORY DIRECTOR

The Laboratory Director will be responsible for directing all phases of laboratory processing of the data recovery collections, including check-in, cleaning, sorting, cataloguing, analyzing, distributing special samples, and preparing for curation. The Laboratory Director will coordinate closely with the PI and Monitoring Supervisor to ensure that the appropriate data are documented and compiled.

1.5 DEFINITION OF RESOURCE TYPES

Below are examples of archaeological site types that might be encountered in the Project APE during construction or additional surveys.

PREHISTORIC

HABITATION SITES. Sites have, at a minimum, flaked stone tools and evidence of food processing and fire affected rock/hearths. Sites contain a wide variety of artifacts and materials. Habitation

sites within the IVSP area may include flakes, tools, groundstone, ceramics, fire-affected rocks, midden, rock features (domestic and storage), and human remains.

- Temporary camp: flaked stone tools, evidence of food processing, fire affected rock/hearths
- Long-term: multiple artifact categories, evidence of use of fire, midden

RESOURCE EXTRACTION/PROCESSING SITES. Sites contain artifacts associated with specific resource extraction or processing activities. Processing/extraction sites within the IVSP include the following:

- Plant processing: Associated artifacts include groundstone, manos, metates, pestles, bedrock storage facilities, and bedrock milling features. Groundstone was also used to process fish, small animals, and pigments, and for hide-tanning. Flaked lithics were also used for cutting/harvesting plants prior to grinding or for preparing vegetal construction materials.
- Animal processing: associated artifacts include lithics, fish traps, and faunal bone
- Lithic reduction: associated artifacts include lithic tools, flakes, debitage, cores, and blanks
- Lithic processing: evidence of heat treatment; associated artifacts include flakes, debitage, and/or cores
- Groundstone production: associated artifacts or features include sandstone and granite outcrops, basalt boulders, etc.

TRAVEL SITES. Trails/footpaths, including trail markers.

CERAMICS SITES. These sites can include both scatters of ceramics and single pot locales or “pot drops.”

ROCK FEATURES SITES. These sites contain cairns, rock alignments, rock rings, and/or cleared circles.

OTHER. All other prehistoric sites that do not fit into the above categories.

HISTORIC

HABITATION SITES. In addition to food-related refuse, these are sites that contain evidence of domestic activity. Features may include tent pads, cleared areas, campfire rings, foundations, or other evidence of more than casual use.

HISTORIC REFUSE. These sites contain primary or secondary refuse deposit or concentrations of debris.

- Food containers: primarily cans

- Beverage containers: bottles and cans

- Mixed domestic: in addition to food and beverage containers, a variety of materials such as crockery, glassware, buttons, wire, toys, etc.

- Construction: cement, milled lumber, nails, paint, tile, etc.

- Target practice: shell casings, fragmentary bullets, etc.

GRAVEL EXTRACTION/MINING. These sites are characterized by pits, scraping scars, rock piles, and/or access roads.

SURVEYING. These sites consist of trash piles associated with surveying activities and historic survey markers.

TRANSPORTATION. These sites are linear features designed to facilitate the transportation of people.

– Roads: unpaved

– Trails: wagon trails and footpaths

MILITARY. Any site associated with military activities.

ROCK FEATURES. Cairns, rock alignments, and/or rock rings.

WATER CONVEYANCE. Any subsurface feature or device constructed to transport water over a distance (irrigation canals, ditches, flumes, pipes, etc.) not associated or addressed as part of the built environment.

OTHER. All other sites that do not fit into the above categories.

BUILT ENVIRONMENT

HABITATION. Standing residential buildings.

INDUSTRIAL. Standing processing or manufacturing plant.

TRANSPORTATION. Existing linear feature designed to facilitate the transportation of people.

- Roads: paved

- Railroads: with intact crossties and rails

WATER CONVEYANCE. Any existing feature or device constructed to transport water over a distance: irrigation canals, ditches, flumes, pipes, etc.

2.0 AVOIDANCE AND PRESERVATION

Avoidance of all cultural resources is preferred and is the goal of BLM. If cultural resources are discovered during construction and they are determined eligible for listing in the NRHP and/or the CRHR, implementation of a data recovery program may be necessary. If avoidance and minimization alternatives are not feasible, then data recovery through archaeological excavation may be warranted. Archaeological sites are most often determined eligible for the NRHP under Criterion D (“have yielded or may be likely to yield, information important in prehistory or history”), and/or the CRHR under Criterion 4 (“potential to yield information important to the prehistory or history of the local area, California or the nation”). The important information can often be characterized by the physical data, the artifacts, and features in the ground. Archaeological excavations may recover this information. This form of mitigation is called data recovery and includes scientific analyses and the preparation of a technical report. The purpose of conducting excavation as mitigation is to recover, analyze, and document in written form the important information contained within an archaeological site. The report must meet professional standards discussed later in this plan.

As stated above, avoidance of cultural resources during construction is preferred. Whenever practicable, an archaeological site that is determined eligible for listing in the NRHP and/or CRHR should be left in place and preserved from damage. Avoidance and minimization alternatives should be also considered as the first option for sites not evaluated. Avoidance measures may include limiting the size of the undertaking to reduce the effect, modifying the undertaking through redesign, and monitoring ground-disturbance activities to record significant archaeological remains if they are encountered.

2.1 ENVIRONMENTALLY SENSITIVE AREAS

Newly discovered and previously known prehistoric and historic archaeological sites located within the Project’s APE shall be designated as ESAs. Construction personnel will be instructed on how to avoid ESAs.

All construction personnel will be trained regarding the recognition of possible buried cultural remains, including prehistoric and historic resources during construction, prior to the initiation of construction or ground-disturbing activities. BLM will complete training for all construction personnel. Training will inform all construction personnel of the procedures to be followed upon the discovery of archaeological materials, including Native American burials.

2.2 PLAN OF ESA ESTABLISHMENT AND DESIGNATION

1. The archaeological consultant shall flag and/or fence cultural resources.
2. The lead Construction Manager and all supervisory personnel shall be informed by the BLM archaeologist and/or its representative of the presence and location of all ESAs within the Project area and the need to maintain integrity of the ESAs.

3. The BLM archaeologist and/or its representative shall convey the archaeological sensitivity of the resource to the construction personnel.
4. Construction personnel shall be informed that ESAs are strictly off-limits to construction, and entrance is not allowed at any time. ESAs shall not be described as archaeological sites. The exact location of cultural resources will be confidential.
5. For prehistoric resources, the BLM archaeologist shall consult with interested Native American tribes regarding the sensitivity of the area and any new discoveries. BLM shall make a reasonable and good faith effort to address concerns. BLM shall consider the role of Native Americans regarding supporting the monitoring of significant Native American resources within and adjacent to Project impact areas.
6. Archaeological monitors shall maintain flagging/staking for ESAs to identify these as areas where no ground-disturbing activities are to take place. Results of this effort shall be presented in the monitoring report for the Project.
7. Archaeological monitors shall immediately report all violations to BLM.

If a resource cannot be avoided, then the resource will be evaluated for eligibility for listing in the NRHP and/or CRHR.

TRAINING

BLM will provide a background briefing for supervisory construction personnel describing the potential for exposing cultural resources, the location of any potential ESA, and procedures to treat unexpected discoveries. An IVSP training document has been prepared and will be provided to construction personnel in support of the on-site training described below. The training document provides prehistoric, historic, and regulatory contexts, the roles of BLM and the archaeological monitors, the responsibilities and authority of the monitors, an outline of discovery protocols, and examples of artifacts. The cultural resources training shall include the following:

1. A summary of the archaeological and cultural sensitivity of the area.
2. The regulatory context and BLM protocols.
3. Project roles and responsibilities for the BLM archaeologist and the archaeological monitors.
4. Authority of archaeological monitors to halt work.
5. Basic artifact recognition.
6. The understanding that if construction personnel observe cultural material or what appears to be a cultural resource, the BLM archaeologist and/or representative shall be contacted immediately. Construction personnel shall have the requisite contact information.
7. The explicit understanding that cultural resources and human remains are not to be disturbed.
8. The procedures to follow if cultural material or human burials are observed:

- Work halts immediately.
- The location is secured and made off-limits to ground-disturbing activities.
- The construction foreman and BLM archaeologist are called immediately.
- Work does not re-commence until authorized by the BLM archaeologist.

3.0 MONITORING PLAN

3.1 MONITORING

A consultant will be retained to provide archaeological monitors. An archaeological monitor or monitors will be present during construction. Additionally, monitoring of ground-disturbing activities within 50 feet of a known cultural resource is required. Monitors are to ensure that ESAs are properly (and adequately) marked and protected. A Native American monitor is required at all sensitive prehistoric resource locations. Safety is paramount, and all monitors will undergo safety briefings and abide by all Occupational Safety & Health Administration (OSHA) and Project safety requirements. Monitors have the authority to halt work. BLM will maintain a record of the safety briefings and require that all monitors participate. The following list outlines the qualifications and responsibilities of the archaeological monitors.

1. The qualifications of monitors shall be confirmed by BLM. The consultant shall provide résumés and references. The monitors must be familiar with the types of historic and prehistoric resources within the study area.
2. Monitors shall maintain a daily work log (see Appendix B) that includes the following:
 - a. Date and time of work
 - b. Area of work
 - c. Type of work and equipment present
 - d. Construction activities performed
 - e. Monitoring activities performed (e.g., protection of ESA)
 - f. Cultural resources present
 - g. Name of Native American monitor (if present)
3. Color digital photographs shall be taken, as appropriate, to document monitoring activities. All ESAs, at a minimum, shall be photographically documented prior to, during, and after construction in their vicinity. If previously unknown or inadequately documented cultural resources are encountered during monitoring, BLM and the monitors shall follow the procedures presented in the section titled *Discovery Treatment Plan*.
4. Monitors shall provide daily updates to the Monitoring Supervisor, who shall provide a summary to the BLM archaeologist. Written memo updates shall be provided weekly. The weekly memos shall identify the monitors present, dates worked, and their locations for that week. The memo shall present the results of monitoring for that week. Once monitoring is complete, a monitoring report shall be drafted for review and approval by the BLM archaeologist. The monitoring report shall present the following:
 - a. All monitoring activities
 - b. Location of monitoring

- c. Dates of monitoring
- d. Personnel participating and their qualifications
- e. Resources (ESAs) satisfactorily protected
- f. Damaged resources, including the effects and the significance
- g. Discovered resources and their significance (if any)
- h. Management and treatment measures implemented

The report shall be reviewed and approved by the BLM archaeologist and shall be prepared per *Archaeological Resources Management Reports (ARMR): Recommended Contents and Format* guidelines (OHP 1990).

- 5. Monitors shall maintain the flagging and staking to make sure that all ESAs are avoided and protected. This includes verification that the current conditions of known significant resources do not change as part of this Project. If protected sites exhibit physical changes, then protection measures need to be immediately changed and improved under direction from the BLM archaeologist. Earthmoving within 50 feet of a significant resource may be halted.
- 6. If individual artifacts are exposed during monitoring, they shall be mapped in situ with a submeter accuracy, global positioning system (GPS) unit, collected, analyzed in the consultant's laboratory, cataloged, and curated. A curation agreement shall be established with a curation facility that meets federal standards.
- 7. If a feature (cluster of in situ artifacts, intact hearth, historic foundation, etc.) is exposed during monitoring, construction activities shall be diverted briefly until the Monitoring Supervisor has had the opportunity to assess the find and make appropriate recommendations. Consultant recommendations shall be provided to BLM and in accordance with the *Discovery Treatment Plan* provided later in this document. Avoidance is preferred and, if a resource cannot be avoided, then it first must be evaluated. If the resource is significant, then avoidance must be considered. If a significant resource cannot be avoided, then treatment measures (including possibly data recovery) must be implemented prior to recommencing construction. The details of this process are also discussed in the *Discovery Treatment Plan* provided later in this document. During the field implementation of archaeological studies, earthmoving within 50 feet may be halted.

After mitigation of site impacts are complete, and if additional cultural material is exposed by grading in the same site, additional hand-excavation will not be required unless the additional material represents a new kind of data not recovered during previous data recovery at that site. Such new data would consist of artifact classes and features not recovered during previous mitigation. Features may include hearths, refuse pits, and burials. Even if no additional hand-excavation is required, the newly exposed material shall be mapped and collected.

8. If human remains are encountered, a course of action following the requirements set forth in 43 CFR 10 and the BLM Native American Graves Protection and Repatriation Act (NAGPRA) as presented in the NAGPRA Plan of Action shall be followed. This includes stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of the exclusion area. Should these BLM NAGPRA protocols not be followed, a violation of NAGPRA and the Archaeological Resources Protection Act (ARPA) may take place. The ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

9. Notification Procedures

When a potential discovery not involving human remains is made during construction monitoring, the cultural resources monitor shall temporarily halt or redirect the work at that location and create a temporary exclusion area (Table 1). The monitor shall then notify the on-site Native American monitor (if not present) if the find is prehistoric (or potentially prehistoric) and the Monitoring Supervisor, who shall inspect the find and perform an initial assessment. If the find appears to represent a potentially significant cultural resource, the Monitoring Supervisor shall notify BLM. BLM shall then notify the Construction Manager, who will issue a temporary stop work order for the location of the find. A list of contact information is provided in Appendix C.

If human remains or fragmentary bones that are suspected to be human are encountered during construction activities, work at that location shall be suspended. The archaeological monitor shall notify BLM and the Native American monitor on-site (if not present at the discovery location) immediately. This notification will be the initial step in the consultation procedures under the NAGPRA. The remains shall be left in place and exclusionary fencing shall be placed in a 50-foot radius around the discovery. Decisions regarding additional identification procedures and the continuation or permanent suspension of work at the discovery location shall then be made by BLM.

Table 1 Discovery Notification Procedures

Resource Type	Definition (in a 25 m ² area)	Procedure
Isolated find	Fewer than three artifacts	Monitor to record, photograph, map with GPS
Archaeological site	Three or more artifacts; feature	Monitor to redirect construction, contact Monitoring Supervisor, erect exclusionary flagging/fencing, and record; Monitoring Supervisor to assess

Potentially human remains		Monitor to redirect construction, and contact BLM, Native American monitor (if not present), and Monitoring Supervisor; erect exclusionary flagging/fencing
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4.0 DISCOVERY PLAN

4.1 PLAN OF TREATMENT OF DISCOVERIES

This Discovery Plan addresses the actions to be taken should discoveries occur during Project implementation. Potential discoveries in the IVSP area are divided into two categories, each requiring distinct management procedures: treatment of previously unknown artifacts, features, site components, or sites; and treatment of human remains discoveries. The procedures to be followed should such discoveries be made during the treatment program or during Project implementation are reviewed below.

If human remains are encountered, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols. This includes stopping work in the exclusion area while the consultation requirements of NAGPRA are completed. Work on the undertaking can proceed outside of the exclusion area. Should these BLM NAGPRA Protocols not be followed, a violation of the NAGPRA and ARPA may take place. The ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

Whereas the protocols below apply to all discoveries, specific management and treatment measures may vary according to the resource type discovered, the discovery location within the Project area, and anticipated Project effects. Specific field and laboratory methods are presented in Appendix A.

MANAGEMENT OF PREVIOUSLY UNKNOWN SITES, SITE COMPONENTS, OR FEATURES

Previously unknown artifacts, features, site components, or even sites may be encountered during archaeological monitoring. The spatial distribution of features and their functional types are important aspects of the research design, both in terms of intrasite structure and spatial organization, and in the distribution of features associated with the desert cultural landscape. Some potential for buried remains occurs within depositional environments present within the APE.

Recovery and documentation of cultural materials will, at minimum, include mapping the discovery location and may also include one or more of the following: photographs; illustrations of artifacts, features, or soil profiles; surface artifact collection; and test or data recovery excavations. The procedures outlined below will be adhered to should there be archaeological discoveries during construction monitoring for the Project. A discussion of the disposition and

curation of recovered artifacts is presented later in the section titled *Data Management and Curation*.

Guidelines for the treatment of new discoveries within the Project area are as follows:

- The archaeological monitor shall have the authority to halt work in discovery vicinities and redirect heavy equipment away from the discovery site.
- All ground-disturbing activities that would adversely impact a newly discovered cultural resource shall be halted. The horizontal and vertical limits of the resource within the impact area shall be determined. The resource shall be protected by physical barriers and the presence of monitors to ensure that further disturbance to the resource is avoided and to minimize impacts.
- BLM shall apply the criteria for listing in the NRHP:
 - (A) It is associated with events that have made a significant contribution to the broad patterns of history and cultural heritage;
 - (B) It is associated with the lives of persons important in our past;
 - (C) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; and/or
 - (D) It has yielded, or may be likely to yield, information important in prehistory or history.

Properties found eligible for the NRHP are assumed to be eligible for the CRHR.

- If the cultural resource is determined by BLM to be a historic property (eligible for the NRHP), consultation shall take place to determine the appropriate treatment measures.
- BLM shall consult with Native American groups or other interested parties regarding the treatment of the find.
- As needed, a data recovery plan shall be developed by the consultant under direction and in coordination with BLM and to recover the significant values contained by newly discovered resources. Recovered data shall be processed, analyzed, and reported concurrent with other sites addressed during the treatment program. Refer to the specific field and laboratory methods in Appendix A.
- If individual non-diagnostic artifacts are exposed during monitoring or construction, they shall be mapped in situ. If diagnostic artifacts are exposed, they shall be mapped using a sub-meter accuracy GPS unit, collected, analyzed in the consultant laboratory, catalogued, and curated.
- If a feature (e.g., cluster of in situ artifacts, intact hearth, or foundation) is exposed during monitoring, construction activities shall be diverted until the find can be assessed and appropriate recommendations made. If excavation is required, it shall be accomplished expeditiously. Features shall be exposed and recovered using standard excavation techniques,

with care taken to maintain the provenance of the feature as a distinct unit. The feature shall be photographed and mapped in place prior to recovery. Samples shall be recovered for special analyses (e.g., radiocarbon, macrobotanical, palynological, or faunal) as appropriate to the character of the feature. Artifacts collected shall be analyzed in the consultant's laboratory, cataloged, and temporarily curated.

- A determination shall be made as to whether a new discovery is part of an existing site or a previously unknown cultural resource. Based on that determination, either new Department of Parks and Recreation (DPR) forms will be created or the existing DPR forms shall be updated to include the discovery. The potential significance of newly discovered sites or site components shall be evaluated relative to the research design.
- If a new site or significant component of a previously recorded site is discovered, construction activities will be halted in the area until an assessment of the find can be made. If it is determined that the site has the potential to yield important data that can address research questions, a sample of the site area shall be hand-excavated using the standard archaeological procedures described in Appendix A. BLM shall be informed by the consultant as to the estimated time necessary for an NRHP/CRHR eligibility determination. The assessment shall include mapping the locations and elevations of new discoveries. To the extent possible, boundary definition, assessment of content and integrity, and assessment of eligibility shall be accomplished with shovel test pit (STP) excavations. At minimum, the evaluation shall include recording, excavating, and reporting major features or artifact concentrations uncovered, and recovery/curation of a sample of uncovered artifacts where practicable.
- Construction activities in the discovery area shall not resume until the site evaluation is completed. The consultant shall prepare a brief report of the findings and eligibility evaluation, and propose avoidance measures and provisions to minimize impacts specific to that discovery. This shall be submitted to BLM for review and concurrence. If further disturbance cannot be minimized, then the cultural resources contractor shall provide justification and recommendations for data recovery to BLM. If BLM determines that disturbance is justified, then recommendations for data recovery shall be reviewed by BLM for adequacy and to evaluate the cost of treatment versus the cost of Project redesign. Interested Native American community members shall be consulted if the resource contains a Native American context. Only after BLM review and approval of a site-specific data recovery plan shall such excavation be performed. Data recovery shall collect a representative sample of the deposits that would be destroyed.
- The discovery of human remains during Project implementation shall require special procedures, as discussed below.
- If additional cultural material is exposed by construction, after mitigation of site impacts has been performed per the Discovery Treatment Plan, additional hand-excavation will not be required unless the material represents a new type of data. Such new cultural material would consist of artifact classes and features not recovered in previous excavations. However, even if no additional excavation is required, the newly exposed material shall be mapped and collected.
- Discoveries and their treatment relative to the research shall be reported in the final monitoring report for the Project. A separate report of findings and interpretation relative to a research design shall be prepared if data recovery excavations are employed for mitigative site treatment.

MANAGEMENT AND TREATMENT OF HUMAN REMAINS

Human remains may be discovered in situ during the field excavation program, which includes the test unit excavations. Additionally, human remains may be discovered during the laboratory processing and analysis phases of the treatment program. Archaeological monitoring both within and outside site areas is also planned, during which isolated or disarticulated human remains may be uncovered. One of the objectives of archaeological monitoring is to identify such remains while they are still in place so they and their context can be managed in a manner that is sensitive to the Native American community or other ancestors and to address existing regulations.

If human remains are encountered, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols as presented in the NAGPRA Plan of Action. This includes stopping work in the exclusion area for a period of no more than 30 days while the consultation requirements of the NAGPRA are completed. Work on the undertaking can proceed outside of an exclusion area defined by BLM. Should these BLM NAGPRA Protocols not be followed, a violation of the NAGPRA and ARPA may take place. The ARPA allows the government to assess civil fines and to proceed with criminal prosecution depending on the nature of the violation.

While it is hoped that human remains will not be encountered during the treatment program, the possibility exists that such a discovery can occur, and procedures are included herein to address such an event. When skeletal remains that may be human are encountered, the following steps will be taken:

- For Project construction activities (as described in the Monitoring Section), if definite or suspected human remains are encountered, the archaeological monitor shall halt work in the discovery vicinity and redirect heavy equipment away from the discovery site to avoid ground-disturbing activities that could adversely impact the remains. The monitor shall also immediately contact/notify the on-site Native American monitor, the consultant Monitoring Supervisor, and BLM. BLM shall then direct the procedures for identification and/or verification of the remains as human. The horizontal and vertical extent of occurrence of the remains within the impact area shall be determined. The remains shall be protected by physical barriers and the presence of monitors to ensure that further disturbance to the remains is avoided. Subsequent to verification of the remains, as previously indicated, the course of action shall follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols.
- For archaeological investigations, activities in the discovery area shall cease and the field supervising archaeologist shall notify the on-site Native American monitor and the Principal Investigator, who shall notify BLM. As with a discovery during construction, BLM shall then

direct the procedures for the identification and/or verification of the remains as human. Subsequent to verification of the remains, as previously indicated, the course of action shall follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols.

- Human remains shall be treated with respect and dignity, with care taken to limit disturbance and maintain the association of the remains with any accompanying funerary items and their physical setting. Archaeological investigations or Project development work shall not resume in the discovery area until the appropriate recovery and management actions have been completed.
- The specific location of the discovery shall be withheld from public disclosure, as will the location of any reburial site.
- No excavation of human remains shall be put on public display in any manner, nor photographed, except for the purpose of scientific documentation. No photographs of human remains shall be distributed to the public or published.

For laboratory situations, where small bone or fragments may be identified as sensitive, similar notification and management procedures to field discovery will be followed, and strict provenance controls will be maintained. As with the field, the initial step is expert identification which shall proceed as directed by the BLM. Subsequent to verification of the remains, the course of action will follow the requirements set forth in 43 CFR 10 and the BLM NAGPRA Protocols, including consultation with tribes and preparation of a written plan for management of the remains.

5.0 DATA MANAGEMENT AND CURATION

5.1 TECHNICAL REPORT PREPARATION AND DISSEMINATION

Reports regarding training, monitoring, consulting, evaluating, and data recovery (if necessary), will be responsive to contemporary professional standards. This will include the *Secretary of Interior's Standards for Archaeological Documentation* (NPS 1983).

A comprehensive technical report may be required that will present the results of monitoring, evaluation, and treatment programs completed in relation to the Imperial Valley Solar Project. The production and dissemination of the technical report is the final step in treatment. The consultant is responsible for technical report preparation, with BLM oversight and final document approval. The technical report and ancillary studies will also be responsive to contemporary professional standards and consistent with *ARMR* (OHP 1990). Precise locational data may be provided in a separate appendix if it appears that its release could jeopardize archaeological sites.

The draft report(s) will contain cultural background; the results of Native American consultation; a description of the physical environment; research design, methods, and results sections; and a discussion of meaning (interpretation). Results of laboratory and specialized analyses will be given along with a discussion of spatial and temporal distributions, as appropriate to the individual report. At a minimum, final technical report(s) resulting from actions pursuant to this treatment plan will be provided by BLM to the South Coastal Information Center.

5.2 CURATION IN PERPETUITY

Following completion of cataloging and analytical procedures, Project collections will be prepared for permanent curation according to Smithsonian Institution guidelines and the requirements of the permanent curatorial facility. Materials to be curated include archaeological specimens and samples, site catalogs, field notes, field and analysis forms, feature and burial records, maps, plans, profile drawings, photo logs, photographic negatives, consultants' reports or special studies, and two copies of the final technical report. These materials will be curated at a facility that meets federal standards as promulgated at 36 CFR Part 79, *Curation of Federally Owned and Administered Archaeological Collections*.

REFERENCES

National Park Service (NPS)

1983 *Secretary of Interior's Standards for Archeological Documentation*. Washington, DC.

Office of Historic Preservation (OHP)

1990 *Archaeological Resources Management Report (ARMR): Recommended Contents and Format*. California Office of historic Preservation, Sacramento, CA.

APPENDIX A
SPECIFIC FIELD AND ANALYTICAL METHODS

ATTACHMENT A

SPECIFIC FIELD AND ANALYTICAL METHODS

Standard archaeological field, laboratory, and analysis methods that are consistent with current scientific and regional procedures will be used for the Imperial Valley Solar Project (IVSP or Project). This appendix addresses newly discovered sites that cannot be avoided by Project construction. Upon unanticipated discovery of intact cultural deposits, including features, these resources will be evaluated for listing in the National Register of Historic Places (NRHP) and/or the California Register of Historic Resources (CRHR).

Strategies will include controlled excavations, which consist primarily of Shovel Test Pits (STPs) that measure 0.5 by 1 meter (m), Test Excavation Units (TEUs) that measure 1 by 1 m, and/or larger block exposures that are hand-excavated with strict provenance controls using shovels, trowels, picks, and other tools. Supervised mechanical excavations may also be used, where appropriate, as well as remote sensing surveys.

Archaeological resources are normally determined eligible under NRHP Criterion D or CRHR Criterion 4, potential for important information. The resource must clearly demonstrate the potential and must exhibit the requisite physical integrity. The presence of diagnostic (datable) material and/or artifacts allowing the opportunity to date the site is imperative. Resources in disturbed contexts with no opportunity to be dated are often ineligible for the NRHP. If a resource is eligible and cannot be avoided by construction, the Bureau of Land Management (BLM) may decide to conduct data recovery and excavate a representative sample of the site employing the excavation strategies below.

FIELD METHODS

SURFACE SCRAPES

Surface scrapes are employed in areas of dense vegetation and involve scraping the ground with a shovel in large units to expose the surface for examination.

SHOVEL TEST PITS

STPs are preliminary tests for the presence of subsurface cultural deposits. It is expected that they will be used to delineate the boundaries of previously unknown sites, site components, or large diffuse features, should they be discovered during archaeological fieldwork or monitoring. STPs normally measure approximately 35 centimeters (cm) in diameter and are excavated in incremental 10-cm levels. The number and distribution of STPs depend on the size and geomorphic setting of each site. Each STP is excavated to bedrock or to soil strata that are clearly not of a culturally relevant age, with the ground surface serving as reference for depth

measurements. Excavated soil is reduced by dry-screening through ⅛-inch mesh hardware cloth, and recovered artifacts are collected and bagged by level, with reference numbers assigned and typical labeling information provided. Stockpiled dirt is returned to the STP upon completion; shovel test forms are completed for each unit.

TEST EXCAVATION UNITS

Manually excavated TEUs afford larger subsurface exposures than STPs and are used to recover representative samples of subsurface artifacts with controlled depth information. In general, TEUs measure 0.5 square meter (0.5 by 1 m) to 4 square meters (2 by 2 m); however, dimensions may vary according to circumstances, and adjacent units may be excavated in various configurations to develop block exposures. For example, site depth is a determinant for defining unit size. Unit depths greater than 1.5 m (5 feet) require the opening of an adjacent unit for health and safety issues, as well as for facility of excavation and recording. Also, additional exploration and exposure of a feature that extends beyond the boundaries of a TEU may be necessary. Excavation proceeds by 10-cm arbitrary contour levels unless natural or cultural strata are present; then, levels are subdivided to maintain these distinctions. Contour levels are maintained by measuring depth from the existing surface. An excavation level record is completed for each level. As appropriate, other records are completed, including plan views, profiles of test units, and descriptions of features. In addition, test units are selectively photographed during excavation to show artifact and/or stratigraphic associations, profiles, features, or other data.

Test units will be numbered by a sequential designation. The highest corner of each test pit is designated the unit's datum for elevation control. This corner will be marked with a pin flag labeled with the test unit's number. Depths of units are determined by empirical site stratigraphy. In alluvial or aeolian deposits, units can range up to several meters below the surface of the site. Whenever possible, units will be excavated to bedrock or to sediments that are clearly not of a culturally relevant age.

Hand-excavation of test units will normally be accomplished using shovels, trowels, breaker bars, and picks, depending on the composition of the soil and the nature of the cultural deposits. In feature contexts, trowels, brushes, and other small implements may be most appropriate. Special methods are used in the excavation of features, including sample collections suitable for special study. Charcoal (for radiocarbon assay) is collected when present. Depending on excavation context and research design issues, other samples that may be collected include bulk sediment for humate analysis and/or chemical analysis, pollen and/or phytolith, and flotation. Excavated soils are typically dry-screened through ⅛-inch mesh to reduce sediment volume and bagged and tagged as previously described.

AUGER EXCAVATION

Auger excavations are used to define soil stratigraphy, to locate bedrock, or to test for the presence of cultural remains at greater depth, including potentially buried deposits. With extension handles, this procedure can accurately locate and trace soil strata at depths of several meters. Augers can be placed in the bottom of STPs or other excavation units to further test for depth of deposit when additional excavation is otherwise impossible. However, the small volume of most auger borings limits the usefulness of this procedure for mapping the absence of subsurface cultural deposits with certainty. Auger excavations may or may not proceed using arbitrary levels (e.g., 10 cm or 20 cm), depending on the circumstances. Augered soils are typically screened through ⅛-inch mesh to recover cultural remains. On each site, auger tests are sequentially numbered, and recovered materials are bagged, labeled, transported, and processed in the same manner as other excavated materials. Reference log numbers are assigned to each provenance unit, and an auger form is completed. Auger test locations are plotted on the site plan views, and auger holes are covered upon completion with the dirt available from the initial screening reduction.

TRENCHING

Where trenching is conducted, an archaeologist and/or geoarchaeologist will direct backhoe operation. The duties of this person include selecting trench locations and their dimensions, monitoring the backhoe while in operation, and examining profiles. Depths of trenches are determined by the site context. For safety, trenches deeper than 1.5 m (5 feet) should be double width or shored. This is an Occupational Safety & Health Administration (OSHA) requirement. Trench walls are photographed and profiled, and stratigraphic units are described. To facilitate accurate sketching, elevation-control stakes are placed at 20-m intervals along the excavated portions of the trench. Trench profiles will be cleaned and examined at least every 5 m. The depth of stratigraphic boundaries is measured from the surface, with strata boundaries extrapolated between mapping points. Standard sedimentary and soil variables are recorded for each stratum. Recorded variables may include (1) description of contacts; (2) soil color; (3) textures; (4) boulder and gravel content; (5) large clast angularity (gravel size and larger); (6) large clast lithology; (7) soil structure, consistency, and plasticity; (8) root content and form; (9) sedimentary structure; (10) disturbance; and (11) organic content. Standard data on soils and sediments are recorded on the Soil Worksheet. As warranted, diagnostic artifacts and special samples may be collected from trench profiles. These collections will be point provenanced and assigned individual numbers.

Back dirt from the trenches will be sample screened at no less than 5-m intervals through ⅛-inch mesh. All features encountered will be exposed by hand. Features will be recorded and mapped on feature forms and photographically documented.

Each trench is marked with a wooden stake labeled with the trench designation. A master list of trenches with their locations, dimensions, and general observations is maintained, and trench locations are included on the site map. Backfilling of trenches is done by backhoe after manual excavations on a site are complete. The wooden stakes marking trench locations will be left in place for mapping.

FEATURE EXCAVATION

Features will be exposed in plain view. If necessary, additional excavation units will be opened as a block. All feature components will be mapped and photographed. If appropriate, the feature will be bisected and profiled, and soil samples will be collected to allow the studies discussed below.

GEOMORPHOLOGY

The use of geomorphology in archaeological excavations has increased substantially over the last decade. A trained geomorphologist/geoarchaeologist will determine and discuss landform context and site formation processes, including the issue of disturbance, and will profile select trenches and excavation units. The geomorphologist will also help determine where trenches should be placed to obtain the best cross-section of the site stratigraphy.

REMOTE SENSING

There are several types of remote sensing techniques that are useful to locate buried features and other anomalies on archaeological sites. These techniques are noninvasive and, when used in combination with hand-excavation, can greatly increase the efficiency of the latter by indicating areas worthy of investigation. Such techniques may be employed in circumstances where they can provide information not otherwise obtainable.

Ground Penetrating Radar (GPR). GPR is a geophysical method that has been developed over the past 30 years for shallow, high-resolution, subsurface investigations of the ground. GPR uses high-frequency pulsed electromagnetic waves to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries where there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.).

Resistivity Survey. Another method, soil-resistivity survey, uses an electrical current introduced into the soil to locate anomalies. The ease or difficulty with which this current flows within the soil is then measured, and resistant areas are mapped. Results are useful when the resistivity contrasts between the archaeological record and the surrounding soil matrix.

Magnetic-Field Gradient Survey. Magnetic-field gradient survey consists of mapping deviations from the uniformity of Earth's magnetic field.. This technique is based on the magnetic field gradient being consistently zero, with deviations from this uniformity indicating archaeological features. Magnetic-field gradient surveys are particularly useful in detecting remnant magnetization that originates from heating iron oxides found in most soils in features such as hearths, fire pits, and ceramic concentrations.

MAPPING METHODS

Point Provenance Method. The point provenance method is employed to map the locations of diagnostic artifacts, tools, and other items or significant features prior to collection or excavation, or to collect the surface of low-density sites. The Global Positioning System (GPS) units with sub-meter accuracy are used for point provenance mapping of monitoring finds, surface scatters of artifacts, and collecting isolated diagnostic cultural materials. Monitors and field mapping personnel will use hand-held GPS units to map finds and to collect surface materials. Materials collected will be assigned sequential reference numbers that are logged on GPS recording forms for the location of each item or feature documented. The reference number is used to prepare a site or item location map and in the presentation of tabled data and artifact illustrations provided in the technical report.

Electronic Distance Measurer Method. During testing and data-recovery program, where provenance accuracy is critical for meaningful interpretation of cultural resources, the electronic distance measurer (EDM) method is typically used. The EDM method provides precise locational data in three dimensions. Because each mapping shot records the vertical azimuth, distance, and bearing, site topography can also be easily documented. To make maximum use of the precision afforded by this mapping technique, data are linked to AutoCAD and geographic information system (GIS) software data and downloaded or entered into an electronic mapping program for output. When the mapping data are plotted, the result is a precise scaled map.

An electronic total station is used for the EDM method, and a single primary mapping station is located in a central area of each property. Sub-data are established, as needed, especially on large sites or those with diverse topography. Stations are established with a well-embedded 9-inch-long nail, and demarked with black-and-pink striped surveyor's flagging. Station labeling includes the station number, site number (permanent designation if available, field number if not), research organization, and date. At large properties, secondary mapping data can be established, keyed to the primary datum, and properly labeled to facilitate recordation of cultural, topographic, and other data.

PHOTOGRAPHS AND ILLUSTRATIONS

Photographic documentation will include color digital photographs taken throughout the monitoring program and during all phases of individual site treatment activities such as testing and/or data recovery. Photographs taken during monitoring will be used to document the activities monitored and the initial recordation of any discoveries or finds made. During testing and/or data recovery activities, photographs will include site overviews to show a site's physiographic and environmental setting, hand and mechanical excavations in action, and features and unit wall profiles. Photographs will be recorded on standard photographic logs identifying the frame, day, month, year, time, subject, and direction of view. Illustrative photographs will be included in the draft technical report.

Sketches or illustrations of unique features and artifacts are also beneficial in depicting details that are sometimes not evident in photographs. These techniques will be used, as determined necessary, and also included in the draft technical report.

CATALOGING AND ANALYTICAL METHODS

Collected artifacts will be inventoried and organized during and following fieldwork and prior to sorting and detailed attribute recording. The Reference Number Log (bucket/bag log) that is completed in the field is submitted to the laboratory with the bagged and labeled residues. The Reference Number Log is the primary inventory document and serves as the list against which artifacts and forms are crosschecked when transferred to the laboratory. Checking assures that (1) collections and data forms are present; (2) the provenance designations (e.g., site, test unit, depth) on each collection bag match those on the data forms and in the Reference Number Log; and (3) other required data sheets (e.g., feature records or special sample forms) are present, accurate, and complete. Data sheets with incomplete or unclear information and those that contradict other data sheets for the same property are returned to the appropriate field personnel (e.g., crew chief, field monitor) for correction.

CLEANING

Prior to cataloging and analysis tasks, most artifacts and specimens will be cleaned and stabilized, either at the wet-screening station or in the laboratory. Specimens that will *not* be cleaned include (1) wood or fiber; (2) fragile/friable bone, antler, or shell; (3) selected groundstone (for possible pollen wash or immunological analysis); (4) selected lithic tools (for blood residue analysis); and (5) possible baked clay or ceramic items.

For other artifacts, adhering dirt will be removed by washing or dry brushing. Flaked stone, groundstone, and shell are typically cleaned using water. Depending on its condition, bone may be either dry brushed or quickly immersed in water, gently brushed, and then quickly rinsed. To

prevent accidental contamination between provenances, artifacts from a single provenance will be cleaned and/or stabilized at the same time, and washing should proceed one unit at a time. Once dry, individual artifacts from each provenance will be placed in clean polyethylene bags along with identification tags produced on archivally stable cardstock. Radiocarbon samples will be placed in either aluminum foil pouches or in glass vials, which will then be placed in clean polyethylene bags. Flotation, pollen, sediment, and other bulk samples will be left in double polyethylene bags until they are processed.

SORTING AND CATALOGING

Sorting and cataloging methods will follow the requirements of the curation standards for a facility that will meet minimum federal requirements as published in 36 Code of Federal Regulations (CFR) Part 79. Specific curation requirements at the facility selected to curate the Project materials will also be ascertained and followed.

Recovered data are separated hierarchically into material class, artifact type, material, quantity, and weight. Material class separates artifacts and other data into such major categories as stone, ceramic, bone, shell, glass, metal, and others. The second ordering variable (artifact type) places the artifact into a category such as debitage, biface, mano, or awl. Material is sorted by toolstone (e.g., chalcedony, obsidian, volcanic, quartzite, or granite), bone, shell, etc.

This information is recorded on the master catalog form with the following additional data: count, weight, locus, unit coordinates, depth/level, unit type, unit designation, and curation box number. Stone, bone, and shell artifacts are counted; unmodified shell, bone, and charcoal are not. Special samples and ecological data (ecofacts) are recorded on the same catalog form, with the same information required for artifacts. Where appropriate, feature number, sampling stratum designation, soil stratum (stratigraphic) designation, and screening mesh size are also included for each catalog entry. Attributes for cores, debitage, flaked stone tools, groundstone, bifaces or projectile points, and prehistoric ceramics are recorded on the corresponding sub- or detail catalogs.

After the information has been recorded, an artifact is given a three-part catalog number, with each part separated by a dash. The first part of the catalog number is the site number, the second part is the year excavated, and the third part is assigned consecutively in the order of entry. After assigning catalog numbers, the artifacts will be placed in clean polyethylene bags with the catalog number and provenance written with archival-quality black ink markers. Identification tags will be generated on adhesive archival-quality labels and applied to the interior of the bags. The tags will include, at a minimum, catalog number, artifact type, and provenance information. Each tag will show the catalog number along with other pertinent

information, such as site number and selected provenance information. Bagged artifacts are stored in 6-inch-square boxes, which are incorporated into the temporary boxing system. The catalog will be entered into the computerized data management system for ease in sorting and manipulating data within and between sites.

TEMPORARY CURATION METHODS

Processed artifacts will be physically organized by artifact type and grouped using archival bags and boxes. The boxes will be temporarily stored at the AECOM processing facility until transfer to the designated curation facility. The boxing system is set up by site, class, and project number. After cataloging, the artifacts are placed in appropriately sized boxes. These boxes will be labeled with the box number and the item type (e.g., debitage, groundstone, bone, soil samples). Smaller archival-quality boxes or plastic film canisters may be used for small or unusual artifacts that need further protection. The boxed artifacts are then placed in a 12- by 15- by 10-inch archival banker's box. The boxes are recorded on an Inventory Spread Sheet.

For a discussion of long-term curation and artifact disposition, refer to the chapter *Data Management and Curation*.

ARTIFACT AND ECOFACT ANALYSES METHODS

Following initial processing and interim curation, artifact and sample analyses will proceed. The recovered chipped and groundstone assemblages, bone and shell artifacts, shell and faunal assemblages, and other items will be subject to a variety of morphological, functional, technological, and typological analyses as appropriate to the data class and research goals. Brief overviews of standard analysis methods are provided in the following sections.

Chipped Stone. The analysis of chipped stone items is directed toward developing classes (and types) of artifacts that are based on morphological, functional, and technological attributes.

Bifaces. Finished bifacial tools include such formal items as points, knives, and drills. The trajectory of biface reduction yields progressively smaller flakes and an objective piece that becomes thinner and takes on a planned form. The objective piece can include the original cobble/core or any detached flake modified using the bifacial strategy. At any point in the production sequence, an incomplete or broken biface can be used as a tool. Bifaces are classified according to the stage of manufacture represented. Biface reduction/production is recognized as a continuum, and the stages reflect arbitrary divisions within this continuum. Biface reduction can be performed on flakes, cobbles, or split cobbles, and can result in cores, tools, and rejected items.

The following data will be recorded for analyzed bifaces: manufacturing stage; lithic material; color, condition, and portion present; overall shape; base shape; transverse cross-section; longitudinal cross-section; and maximum dimensions (length, width, and thickness). The stages of biface manufacture include the following:

- *Stage 1: Edging.* Deep and wide cortical removals originate from natural lateral surfaces. Twenty percent or more of the cortex is retained. The cross-section is irregular or blocky. The width-to-thickness ratio is greater than 3:1.
- *Stage 2: Primary Thinning.* Primary thinning includes second-row and some third-row flaking, loss of natural surface platform angles, prepared platforms, straightened edges, and the most prominent masses and ridges removed. Minimal cortex is retained by the end of Stage 2. The biface begins to form an ovate shape, but the cross-section is rectangular, trapezoidal, or very thick lenticular. The width-to-thickness ratio is less than 3:1.
- *Stage 3: Secondary Thinning.* Overlapping flake scars form opposing lateral margins, no cortex remains, and the biface assumes the desired shape. The cross-section is becoming more lenticular, and the width-to-thickness ratio is about 4:1. Often, change to soft hammer percussion techniques takes place during this stage.
- *Stage 4: Shaping to Preform Tool.* Shaping results in regular flake removals and uniform lateral edges. The cross-section is very lenticular, and optimal width-to-thickness ratios are reached (between 4:1 and 5:1). Optionally, a change to pressure flaking may be made for tool shaping.
- *Stage 5: Finishing.* The preform is finished by notching or fluting, basal grinding, or minor retouch and shaping, if necessary, accomplished through pressure flaking. Stage 5 bifaces can be further subdivided into morphological types.
- *Stage 6: Tool Maintenance and Resharpening.* Continued use of the tool results in dulled edges. Resharpening by pressure flaking reduces the size of the tool and produces a characteristic S-shaped edge cross-section.

Projectile Points. Projectile points are finished bifaces and are a morphologic variation of this chipped stone category. Points exhibit a wide range of styles that are chronologically and culturally diagnostic and are, therefore, treated in greater detail. Typological analysis of projectile points provides diagnostic artifact characteristics to the items and increases their importance for chronological, settlement, subsistence, and technological research.

Projectile points are well-shaped (although not always symmetrical) thin bifaces with uniform cross-sections, regular and non-sinuous edges, little to no cortex, and minute edge alteration and retouch. They often have a deliberately prepared haft element oriented near the center of one end. From the distal to proximal ends, attributes of points include the tip, blade, and stem, but reflect considerable morphological variability in tip form, blade edges,

shoulder/barb configurations, notch location and orientation, stem shape, tang morphology, and base configuration.

The attribute stage of analysis recognizes three subclasses: “dart” points/shafted knives, “arrow” points, and indeterminate points. Points are further classified into named types (where possible). The attributes recorded for projectile points include lithic material, condition and portion present, blade edge form, blade shape, base shape, shoulder form, stem form, presence of serration, presence of basal notching, presence of side notching, cross-section, actual maximum dimensions (length, width, and thickness), length at longitudinal axis, actual width, position of maximum width, maximum blade width, basal width, maximum stem width, position of maximum stem width, shoulder height, proximal shoulder angle, distal shoulder angle, notch opening, side notch width, basal notch width, side notch depth, and basal notch depth.

Cores. This class of artifacts refers to bulky objective pieces used in the preparation of chipped stone tools. Most of these items are pieces representing a wide range of lithic reduction strategies, with the main goal oriented toward testing the quality of material or producing large serviceable flakes suitable for use or for modification into formal tools. Cores can be minimally described by core type, maximum dimensions (length, width, and thickness), lithic material, total observable flake removals, and percentage of cortex.

Cores can be separated into the following categories:

- Test blocks largely reflect the morphology of the original cobble and have a high percentage of cortex. They are characterized by a minimum amount of flaking (usually fewer than five flake scars), which was used to assess the texture and knapping quality of the stone and to determine whether vugs or impurities are present. Test blocks tend to represent rejected materials (i.e., those excluded from tool production trajectories).
- Split cobble/pebbles are the result of splitting cobbles or pebbles into half sections for further reduction. A minimum number of flake scars may be present. The specimens are not shaped and have thick, irregular cross-sections approaching plano-convex. Cortex covers more than 50% of the dorsal surface. Some secondary flaking may occur around the perimeter of the split edge, but the modification has not substantially changed the morphology of the split sections. The edges may or may not be sinuous.
- Biface cores are virtually indistinguishable from Stage 1 and 2 bifaces, described previously.

- Unidirectional cores primarily have a single striking platform from which a series of flakes has been detached. The flake removal can reflect direct percussion or bipolar technique, but the vast majority of flakes should originate from the single platform.
- Bipolar cores resemble single platform cores, but differ in the existence of a second platform on the opposite end of the core. The orientation of flake removal is from both ends of the core along a single axis.
- Bidirectional cores are similar to bipolar cores, but differ in the location of the second striking platform. In bidirectional cores, the platforms are not in opposable locations.
- Multidirectional (also labeled amorphous or unpatterned cores) have multiple platforms and flake scar orientation that may either coincide with the ridges on the original cobble or lens geometry or utilize appropriate edge angles from previous flake scar removals. The flake scar removal patterning may appear haphazard and random.

Unifaces. Unifaces are shaped tools or incidentally shaped flakes or blades that have been retouched or display continuous modification along one or more edges of one face. Flakes with modification along different edges on alternate faces are also regarded as unifaces. Edge modification can occur on the dorsal or ventral surfaces. During analysis, unifaces will be typed according to existing morphological categories (e.g., keeled scraper, beaked scraper, or concave scraper). In addition, the following observations may be recorded for each specimen: material, shape, cross-section, longitudinal cross-section, condition, location of worked edge(s), maximum dimensions (length, width, and thickness), and edge angle. Unifaces can be subdivided into the following subclasses:

- Formally shaped unifaces are tools with extensive retouching that has substantially modified the morphology of the tool. The retouching consists of a continuous series of flake scars knapped from the edge and extend from at least one-quarter to the entire face of the tool. The tool morphology may or may not be symmetrical, but the modification is relatively extensive and clearly patterned.
- Informally shaped unifaces are tools with incidental edge modification or retouching not substantially modifying the outline morphology of the flake. These items are regarded as expedient tools selected for their natural morphology or edge characteristics and are believed to have been used for a limited number of tasks. The shape of the original flake is largely evident. Edge modification is restricted to a series of five or more continuous flake scars along the edge. Discontinuous nicks randomly occurring along the edge are not regarded as modified flake tools.

Debitage. This category of artifacts refers to unmodified, discarded knapping residues resulting from the production and maintenance of chipped stone tools. Represented are a wide range of remains, including complete and broken flakes, angular waste, and heat spalls and potlids from errors in heat treatment. The attributes recorded fordebitage include lithic material, manufacturing stage, completeness, presence and percentage of cortex, evidence

of heat treatment, and size. Debitage generally can be defined within the following six categories:

- Core flakes have definable dorsal/ventral surfaces and predominantly unfaceted platforms with steep platform/dorsal edge angles. The dorsal surface flake scar patterns may have unidirectional or multidirectional orientations. Flake cross-sections may be thick, angular, and irregular. Cortex commonly occurs on platforms and/or dorsal faces of these specimens.
- Biface flakes have definable dorsal/ventral surfaces and predominantly faceted platforms, acute platform/dorsal edge angles, and dorsal surface flake scar patterns with mostly multidirectional orientations. Flake cross-sections tend to be thin and concave/convex. Cortex does not occur on platforms and is rarely present on dorsal faces of these specimens. Biface reduction may have resulted in cores or tools.
- Unidentified flakes are flakes or flake fragments that possess insufficient characteristics to be classified as either core or biface flakes. They have definable dorsal and ventral orientations, but platforms are generally absent. This subclass is a general “catch-all” category for non-diagnostic flakes.
- Blades are a special form of long, relatively thin flakes characterized by unidirectional flake scar patterns on the dorsal face and a length-to-width ratio in excess of 2:1.
- Angular waste consists of irregular pieces of knapping debris that do not possess sufficient morphological attributes to permit classification into a specific flake category. Most are angular and blocky without discernible platforms or dorsal/ventral surface orientations.
- Heat spalls and potlid flakes are derived from thermal damage and are morphologically distinct from knappingdebitage. Heat spalls are often characterized by crazed exterior surfaces and sometimes thermally discolored lithic materials. Typically, the dorsal surface of heat spalled debris displays cortex or compression rings from previous flake removals. Potlids are plano-convex spalls, where the planar surface is the dorsal side and the convex surface is the ventral. Potlids and heat spalls are formed from different expansion/contraction of stone materials under extreme thermal conditions; they characteristically lack the compression rings of force. This type of debris is usually derived from failed attempts at heat treatment or accidental exposure to fire.

Becausedebitage is generally the most frequent artifact class on prehistoric sites, and because minimal additional key conclusions can be obtained using size data on numerous individual specimens, size sorting ofdebitage can be accomplished. Debitage analysis is also useful for determining whether heat treatment was a phase in tool production. Characteristic heat treatment attributes or damage such as differential luster and crazed surfaces will be recorded duringdebitage analysis.

Groundstone. Groundstone is defined as lithic material whose shape is modified by repeated friction of stone against stone, as opposed to chipping. Groundstone is recorded using simple

morphological and technological attributes based on size and shape. For groundstone specimens, type, lithic material, number of ground surfaces, and maximum measurements (length, width, thickness, and weight) are recorded. In addition, evidence of formal shaping, rejuvenation, secondary use, and the presence and distribution of peck marks, polish, and striations can be recorded.

Common groundstone artifacts include the following:

- Milling stones or metates are large, tabular pieces of stone that exhibit flat to concave ground surfaces on one or both faces. They served as the surface against which materials were ground. They are separated into slab, block, and amorphous forms based on thickness and cross-section. Those that have rectangular cross-sections and are 6 cm or less in thickness are termed slab milling stones. Those with rectangular cross-sections but are greater than 6 cm in thickness are termed block metates. Milling stones with irregular, long cross-sections, without consideration of their thickness measurements, are termed amorphous. Surfaces may be classified as Type A (planar) or Type B (concave).
- Handstones or manos are handheld grinding stones used to mill food grains or other items against a metate. Typically, they are slabs or cobbles of a size to fit in one or two hands and exhibit a flattened, ground surface on one or more of their faces. Type 1 manos include amorphous to subrectangular handstones with no indication of intentional shaping. Type 2 manos are those that have been shaped into a regularized form. This type is further subdivided on the basis of size into one-handed and two-handed varieties, with two-handed manos defined as those greater than 15 cm along their longest axis.
- Mortars are deeply concave stones in which material was ground and/or pounded. They may be either bowl or bedrock forms.
- Pestles are handheld grinding stones used to press against and into a mortar. They are typically long, cylindrical, and rounded at one or both ends.
- Discoidals/cogstones are thick circular items that served an unknown function, but are associated with the Milling Stone tradition in California archaeological contexts.
- Abrading stones show parallel striations oriented longitudinally (rather than transversely) on one or more faces. Battering may also be present.
- Pendants/gorgetts are extensively ground on both surfaces and may have evidence of a biconically drilled hole.
- Unidentified groundstone are fragments that are too small to distinguish morphology or function. These have one or more ground/faceted surfaces, but the remaining portion is too small to infer artifact type.

Hammerstones. Typically, these artifacts are unmodified cobbles, initially reduced cores, or broken cores that exhibit battering on one or more edges. Three subclasses may be defined, two indicating the state of reduction of the artifact and the third indicating the degree of wear. The first subclass includes cobbles that lack signs of modification except for obvious battering at one

or more points on the cobble surface. The second subclass is cores that show battering on one or more previously flaked edges. The third subclass is pecking stones: pebbles or cobbles with lighter and more localized wear, often on a pointed projection of the cobble. For these specimens, lithic material, number of modified surfaces, and maximum measurements (length, width, thickness, and weight) can be recorded.

FAUNAL ANALYSES

A minimum number of individuals indexed will be developed for the vertebrate sample. The purpose of vertebrate faunal analysis is twofold: (1) to identify the variety of fauna present in the local environment over a long period of time, and (2) to identify the species of animals and birds that were included in the human diet, and their ratios diachronically. Both aspects—environmental change and subsistence base—are integral to understanding prehistoric adaptations and historic uses of the area. Special attention to the possibility of faunal remains related to the Anza expedition will be included in the analysis.

SPECIAL STUDIES

Special studies to be completed for the treatment program, as data facilitate, include the following:

- *Radiometric Analysis.* Selected charcoal and shell samples and other remains containing carbon (e.g., organics and bone) from key contexts will be submitted for radiocarbon assay. Approximately 10 samples will be submitted to establish the chronology of paleolandscapes for the paleoenvironmental reconstruction historic context, and another 10 will be submitted to date the chronology of sites and site components should sufficient data be recovered during the treatment program.
- *Obsidian Sourcing Analyses and Hydration.* Obsidian sourcing analysis is used for providing an idea of the regional exchange system within which prehistoric site occupants operated. Obsidian hydration analysis by source is useful for assigning relative chronological ages to the sites and associated materials.
- *Flotation, Pedological, and Chemical Analyses of Sediments.* Flotation analysis of cultural features, including subsequent macrobotanical identification, as necessary, is an important aspect of the evaluation program. Data can be used to address subsistence, site function, seasonality of occupation, internal site structure, and settlement type. Pedological and chemical analyses are useful for geomorphic studies, paleoenvironmental reconstructions, and postformation processes.
- *Ceramic Analyses.* Ceramic thin sectioning (sourcing).
- *Other Analyses and Assays.* Other types of artifact analyses and sample assays may be performed if sufficient data are recovered during the treatment program. These include (1) blood residue (immunological) analysis of selected lithic tools, (2) microscopic use/wear analysis of the edges of selected lithic tools, and (3) stable carbon isotope assay of bone samples from various taxa.

ATTACHMENT B
DAILY MONITORING LOG

IMPERIAL VALLEY SOLAR PROJECT
DAILY ARCHAEOLOGICAL MONITORING LOG

DATE: _____

ARCHAEOLOGICAL MONITOR: _____

FACILITY: _____

ARRIVAL: _____ **LUNCH:** _____ **DEPARTURE:** _____

PROJECT AREA(S): (Location) _____

TYPE OF WORK AND EQUIPMENT: _____

SUMMARY OF CONSTRUCTION ACTIVITIES PERFORMED: _____

MONITORING ACTIVITIES PERFORMED (e.g., protection of ESA): _____

CULTURAL RESOURCES PRESENT: _____

NATIVE AMERICAN MONITOR (If present): _____

NON-COMPLIANCE: _____

COMMENTS: _____

LOG FILED WITH MONITORING SUPERVISOR: _____

ATTACHMENT C
CONTACT LIST

CONTACT LIST

AFFILIATION	TELEPHONE	EMAIL	NAME
-------------	-----------	-------	------

Bureau of Land Management Cultural Resources

California Energy Commission

Tessera

Construction Manager

Monitoring Supervisor

Principal Investigator

Imperial County Coroner

APPENDIX K: EXAMPLE NAGPRA PLAN OF ACTION

DRAFT
NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT
PLAN OF ACTION:

**A WRITTEN PLAN OF ACTION
FOR THE TREATMENT OF
INTENTIONALLY EXCAVATED OR INADVERTENTLY DISCOVERED
HUMAN REMAINS, FUNERARY OBJECTS, SACRED OBJECTS,
OR OBJECTS OF CULTURAL PATRIMONY
FOR THE IMPERIAL VALLEY SOLAR PROJECT IN CALIFORNIA DESERT DISTRICT OF THE
BUREAU OF LAND MANAGEMENT CALIFORNIA**

Prepared For:

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Prepared By:

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May 28, 2010

and

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August 13, 2010

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Attachments

- A Upon The Discovery of Human Remains, Funerary Objects, Sacred Objects,
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- B List of Native American Tribal Contacts

Introduction

This Plan of Action (POA) describes the procedures for the treatment and disposition of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony (hereinafter, cultural items) for inadvertent discoveries during construction of the Imperial Valley Solar Project (IVSP or Project) located in the California Desert District (CDD) of the Bureau of Land Management (BLM), California. This POA complies with the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S. Code (USC) 3001 et seq. and its implementing regulations as set forth in 43 Code of Federal Regulations (CFR) Part 10 (specifically §10.5[e]), and the Archaeological Resources Protection Act (ARPA), 16 USC 470aa-mm., with its implementing regulations (43 CFR Part 7).

Planned Action

The IVSP would construct a 750-megawatt (MW) solar energy plant on approximately 6,500 acres of public lands in California administered by BLM CDD and the El Centro Field Office. The Project would use existing roads and construct new roads in the Project area.

The Project is located in western Imperial County, California, immediately east of the town of Ocotillo, west of the town of Seeley, and north and south of Interstate 8 (I-8). The Project will use the SunCatcher technology of Stirling Energy Services. Each SunCatcher consists of a 25-kilowatt solar power electric-generating system. The system is designed to track the sun automatically and to focus solar energy onto a Power Conversion Unit, which generates electricity. The system consists of an approximate 38-foot-high by 40-foot-wide solar concentrator dish that supports an array of curved glass mirror facets. The 300-MW Phase I of the Project will consist of approximately 12,000 SunCatchers. The 450-MW Phase II portion of the Project will include approximately 18,000 SunCatchers.

The Project will include the construction of a new 230-kilovolt (kV) substation approximately in the center of the Project. A Main Services Complex, where key buildings and parking areas will be located, will be constructed at the northeastern end of the Phase I Project. Main roads will be constructed with a combination of roadway dips and elevated sections across the dry washes on the Project. The full Phase II expansion of the Project will require the construction of the 500-kV Sunrise Powerlink transmission line that San Diego Gas & Electric (SDG&E) has proposed. A 230-kV transmission line that will be built for Phase I will parallel the current transmission line corridor for the Southwest Powerlink transmission line within the existing right-of-way (ROW). The main entry for truck traffic to the Project during construction will be from I-8 to the Project entrance on Evan Hewes Highway. During Project operation, the secondary and emergency access will be from Dunaway Road.

Consultations

Based on previous consultation, the Campo Band of Kumeyaay Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the Ewiiapaayp Band of Kumeyaay Indians, the Jamul Indian Village, the Kwaaymii Laguna Band of Indians, the La Posta Band of Kumeyaay

Indians, the Manzanita Band of Kumeyaay Indians, the San Pasqual Band of Diegueno Indians, and the Santa Ysabel Band of Diegueno Indians (tribes) have been contacted for the IVSP and have indicated that the project is within ancestral territory. Additionally, sensitive areas have been identified in association with relic shorelines of ancient Lake Cahuilla. Should remains subject to NAGPRA be discovered during the course of construction, BLM will continue to consult with the interested tribes. These groups have been consulted with and have received a copy of this plan.

BLM's duty to consult with tribes does not include any obligation, implied or expressed, to fund or pay tribes or tribal members for their participation to consult or confer with BLM.

1) Objects to be considered as cultural items:

For the purpose of this plan, the objects considered as cultural items are defined in 43 CFR 10.2 (d) and are as follows:

1. *Human remains* means the physical remains of a human body of a person of Native American ancestry. The term does not include remains or portions of remains that may reasonably be determined to have been freely given or naturally shed by the individual from whose body they were obtained, such as hair made into ropes or nets or individual teeth. For the purposes of determining cultural affiliation, human remains incorporated into a funerary object, sacred object, or object of cultural patrimony, as defined below, must be considered as part of that item (43 CFR 10.2[d][1]).
2. *Funerary objects* means items that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed intentionally at the time of death or later with or near individual human remains. Funerary objects must be identified by a preponderance of evidence as having been removed from a specific burial site of an individual affiliated with a particular Indian tribe or Native Hawaiian organization, or as being related to specific individuals or families or to known human remains. The term *burial site* means any natural or prepared physical location, whether originally below, on, or above the ground, into which, as part of the death rite or ceremony of a culture, individual human remains were deposited, and includes rock cairns or pyres that do not fall within the ordinary definition of a gravesite. For purposes of completing the summary requirements in §10.8 and the inventory requirements of §10.9 (43 CFR 10.2[d][2]), funerary objects can be further defined as follows:
 - (i) Associated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are also in the possession or control of a museum or Federal agency. Associated funerary objects also means those funerary objects that were made exclusively for burial purposes or to contain human remains.
 - (ii) Unassociated funerary objects means those funerary objects for which the human remains with which they were placed intentionally are not in the possession or control of a museum or Federal agency. Objects that were displayed with

individual human remains as part of a death rite or ceremony of a culture and subsequently returned or distributed according to traditional custom to living descendants or other individuals are not considered unassociated funerary objects.

Funerary objects found in prehistoric burials in the Colorado Desert include, but are not limited to, arrowheads, shell beads, pendants, ceramic pots, and arrow shaft straighteners.

3. *Sacred objects* means items that are specific ceremonial objects needed by traditional Native American religious leaders for the practice of traditional Native American religions by their present-day adherents. While many items, from ancient pottery sherds to arrowheads, might be imbued with sacredness in the eyes of an individual, these regulations are specifically limited to objects that were devoted to a traditional Native American religious ceremony or ritual and that have religious significance or function in the continued observance or renewal of such ceremony. *Traditional religious leader* means a person who is recognized by members of an Indian tribe or Native Hawaiian organization (43 CFR 10.2[d][3]) as follows:

- (i) Being responsible for performing cultural duties relating to the ceremonial or religious traditions of that Indian tribe or Native Hawaiian organization, or

- (ii) Exercising a leadership role in an Indian tribe or Native Hawaiian organization based on the tribe or organization's cultural, ceremonial, or religious practices.

4. *Objects of cultural patrimony* means items having ongoing historical, traditional, or cultural importance central to the Indian tribe itself, rather than property owned by an individual tribal or organization member. These objects are of such central importance that they may not be alienated, appropriated, or conveyed by an individual tribal or organization member. Such objects must have been considered inalienable by the culturally affiliated Indian tribe or Native Hawaiian organization at the time the object was separated from the group (43 CFR 10.2[d][4]).

2) Specific information to determine custody:

In the event of the removal of NAGPRA material on Federal lands, the following specific information will be used to determine custody:

1. Information provided by a lineal descendant(s) that can trace his or her direct relationship, without interruption, between themselves and the deceased by means of the traditional kinship system of the appropriate Indian tribe (43 CFR 10.2[b] and 43 CFR 10.14[b]).
2. Information provided by a Native American tribe, people, or culture that is indigenous to the United States and that can establish cultural affiliation by means of a relationship of shared group identity that can reasonably be traced historically or prehistorically between members of a present day Indian tribe and an identifiable earlier group (25 USC 3001[9], 43 CFR 10.2[e] and 43 CFR 10.14[c]).

3. The Federal agency official will determine cultural affiliation between a present-day individual or Indian tribe by a preponderance of evidence based on geographical, kinship, biological, archaeological, anthropological, linguistic, folkloric, oral traditional, historical, or other relevant information or expert opinion (25 USC 3005 [a][4], 43 CFR 10.2[e], and 43 CFR 10.14[e]).
4. Priority order of custody of the cultural materials will be consistent with 43 CFR 10.6 (a) as follows:
 - (1) In the case of human remains and associated funerary objects, in the lineal descendant of the deceased individual as determined pursuant to Sec. 10.14 (b);
 - (2) In cases where a lineal descendant cannot be ascertained or no claim is made, and with respect to unassociated funerary objects, sacred objects, and objects of cultural patrimony:
 - i. In the Indian tribe on whose tribal land the cultural items were excavated;
 - ii. In the Indian tribe that has the closest cultural affiliation with the cultural items as determined pursuant to Sec. 10.14 (c); or
 - iii. In circumstances in which the cultural affiliation of the cultural items cannot be ascertained, BLM is unable to prove a right of possession as defined at 43 CFR 10.10(a)(2), and the materials were excavated or removed from Federal land that is recognized by a final judgment of the Indian Claims Commission or the United States Court of Claims as the aboriginal land of an Indian tribe:
 - (A) In the Indian tribe aboriginally occupying the Federal land on which the cultural items were excavated, or
 - (B) If it can be shown by a preponderance of the evidence that a different Indian tribe has a stronger cultural relationship with the cultural items, in the Indian tribe that has the strongest demonstrated relationship with the objects.

BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be determined.

3) Planned treatment, care, and handling of human remains:

All discovered remains will be treated with respect and dignity. BLM will provide the tribes an opportunity to examine remains prior to removal and to conduct traditional religious activities, if this is feasible without delay that would endanger the remains. While BLM will provide the opportunity to view the remains prior to removal, the tribes are responsible for their travel expenses to and from the location of the discovery.

The IVSP will avoid any unnecessary disturbance, physical modification, or breakage of remains and the transport, inventory, or storage of human skeletal remains in locations separate from their associated funerary objects. Treatment will proceed according to the following provisions:

1. Representatives of the tribes will have the opportunity to be present during the exposure and removal of remains whenever possible. If agreed upon by BLM and the tribes, and if feasible, specific tribes may be designated to take the lead in initially responding to discoveries.
2. Remains will be excavated in accordance with the stipulations of the Monitoring and Discovery Plan approved under the terms of the Project's Programmatic Agreement (PA) for compliance with Section 106 of the National Historic Preservation Act (NHPA).
3. No destructive analyses of remains will be permitted without the written permission from BLM, and only after BLM has consulted with tribes regarding the planned treatment, care, and handling of any recovered human remains, funerary objects, sacred objects, or objects of cultural patrimony.
4. Drawings of remains and the locations of associated funerary objects will be made and may be published with BLM approval unless the claimants determine funerary objects are of a sensitive nature.
5. No pollen or flotation samples will be removed from burial pit fill dirt without the written permission of BLM, and only after BLM has consulted with tribes regarding such removal.
6. Transportation of cultural items will be minimized under all circumstances and will be carefully packed to avoid disturbance or damage. Human remains may be packed separately from their associated funerary objects, but the containers will be kept together at all times.
7. Representatives of the tribes will be afforded the opportunity to view all artifact collections and records resulting from the archaeological investigation to identify funerary objects, objects of cultural patrimony, or sacred objects. If such objects are identified, BLM will be notified by the tribes and consultation will be initiated regarding their consistency with NAGPRA criteria for identification of these classes of objects and their treatment and disposition.

8. IVSP is responsible for ensuring the security of cultural items from vandalism or other disturbance through employment of security personnel, fencing, and other appropriate measures, as needed. If human remains are endangered by exposure or other factors, IVSP's approved cultural resources/archaeological contractor may be authorized by BLM to proceed with removal of the cultural items to their facility to protect the cultural items. Written notice of this action must be provided to the claimants and agencies within 3 days of removal.
9. IVSP will not resume construction in the buffer area surrounding the discovery until it has received written authorization to proceed based on procedures established in the treatment plans as prescribed in the PA. In addition, no news releases, including photographs, videotapes, written articles, or other means of information, shall be released by any party unless approved by BLM and the tribe(s).

4) Planned archaeological recording of the human remains and cultural materials:

All cultural items, as defined in this POA, will be appropriately recorded and described using current standards and following current archaeological practices and methods. The archaeological documentation of human remains will be limited to visually evident characteristics that indicate such things as age, gender, obvious pathologies, and any obvious visual traits that may help to indicate cultural affiliation. Funerary objects will be recorded at a descriptive non-invasive level including measurements, type, and morphology. If human remains and/or cultural items are removed from the site, a catalogue of these items will be maintained.

5) Analysis planned for the human remains and cultural materials:

Initially, only non-destructive analyses will be carried out on the human remains. These can include anthropometric analyses (measurements/weight), mapping, drawing, measuring, weighing, and photo documentation. After consultation with the tribe(s), other tests may be determined appropriate by BLM.

Likewise, only non-destructive analyses will be carried out initially on the associated funerary objects, unassociated funerary objects, sacred items, and objects of cultural patrimony. These can include measuring and weighing, drawing, mapping, photographing, X-raying, and X-ray fluorescence analysis. After consultation with the tribe(s), other tests may be authorized by BLM.

6) Steps to be followed to contact Indian tribe officials at the time of intentional excavation:

In the event of a discovery, IVSP's approved cultural resources contractor/permittee will notify BLM and the appropriate land managing agency within 24 hours and may be authorized to undertake limited additional excavation and examination to assess whether the materials are within the protected classes of remains covered by the PA. The notification will include the following information:

- A. A verbal description of what was found and the context in which NAGPRA items are located
- B. The location of the NAGPRA items
- C. A preliminary assessment of the type of NAGPRA items
- D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place
- E. Any other pertinent information

BLM shall notify the tribes promptly after the initial discovery of items protected under NAGPRA and provide written confirmation by certified mail, or alternatively Express Mail, of the discovery within 3 working days (see Attachment A and B). The information to be provided to the tribes will include the following:

- A. A verbal and written description of what was found and the context in which NAGPRA items are located
- B. The location of the NAGPRA items
- C. A preliminary assessment of the type of NAGPRA items
- D. An assessment of the complexity of the burial(s), human remains, and/or other NAGPRA items, and the likelihood of disturbance if left in place
- E. A request that the tribe(s) respond within 24 hours if the tribe(s) wish to view the remains or objects in place
- F. Any other pertinent information

BLM will additionally afford the tribes the opportunity to conduct field visits, viewings of the items in question, and appropriate and reasonable ceremonies or rituals related to the items in question. The tribes are responsible for any costs to and from the discovery site.

7) Kind of traditional treatment to be afforded the human remains:

The tribes will be afforded the opportunity to examine the remains prior to and during removal unless the remains are in direct danger of further disturbance or destruction. Tribal representatives will be afforded the opportunity to perform traditional treatments, as needed, to the remains.

8) Nature of reports to be prepared:

A comprehensive report on the results of the archaeological investigation, including the recovery of cultural items, will be prepared and distributed in accordance with the terms of the aforementioned PA, developed in accordance with Section 106 of the NHPA.

9) Planned disposition of human remains pursuant to 43 CFR 10.6:

In the event that discovered NAGPRA items must be removed, BLM will determine, pursuant to 43 CFR 10.6, which Native American tribe will receive custody of the items. BLM intends to repatriate human remains and associated funerary objects when cultural affiliation can be

determined. BLM will provide notification of intent to transfer possession and subsequently return the items to the appropriate tribe within the limitations of 43 CFR 10.15.

Upon determination of a lineal descendant(s) or culturally affiliated tribe that, under Federal regulations, appears to be entitled to custody of the human remains, the agency official will transfer custody of the deceased to that lineal descendant or culturally affiliated tribe in accordance with 43 CFR 10.6(c).

Prior to any such disposition, the agency official will publish a general notice of the proposed disposition in three separate newspapers of general circulation in the areas where interested tribes now reside. The notices will be published at least two times at least 1 week apart, and the transfer will not take place until at least 30 days after publication of the second notice to allow time for any additional claimants to come forward.

If additional claimants do come forward and the agency official cannot clearly determine which claimant is entitled to custody, the agency official will not transfer custody of the deceased until such time as the proper recipient is determined, pursuant to regulations found at 43 CFR 10.

In the event the remains are of Native American descent, but are not claimed by any tribe within the geographical area, they will not leave the custody of the Federal agency. Should custody of remains be transferred to claimant tribes under 10.6, the tribes may request reburial on BLM land. Reburial of NAGPRA items on lands administered by BLM is subject to the provisions found in Instructional Memorandum No. 2007-002. The reburial locations will be determined through consultation with the tribes, and any locational information will be kept confidential to the extent allowed by law.

10) The role of tribal monitors during survey and excavation:

Individuals who are approved tribal monitors on the Project will notify the Principal Investigator(s) about items they feel are funerary objects, sacred objects, and/or objects of cultural patrimony. The Principal Investigator will notify BLM within 24 hours that monitors identified funerary objects, sacred objects, and/or objects of cultural patrimony. The report will include a description of the find(s), photograph(s) or drawing(s) were applicable, artifact(s) numbers or identification were applicable, and a description of the tribal monitor's opinion(s).

11) BLM personnel and tribal representatives involved in this NAGPRA effort:

As a result of tribal consultation, the following parties will be involved in this NAGPRA effort:

Campo Band of Kumeyaay Indians, the Cocopah Indian Tribe, the Fort Yuma Quechan Indian Tribe, the Ewiiapaayp Band of Kumeyaay Indians, the Jamul Indian Village, the Kwaaymii Laguna Band of Indians, the La Posta Band of Kumeyaay Indians, the Manzanita Band of Kumeyaay Indians, the San Pasqual Band of Diegueno Indians, and the Santa Ysabel Band of Diegueno Indians (tribes), and the Ah-Mut Pipa Foundation and Kumeyaay Cultural Repatriation Committee (Tribal organizations).

The names and addresses of the tribal members are in Attachment B.

Federal Officials

California State Director, Bureau of Land Management	Date
--	------

California Desert District Manager, Bureau of Land Management	Date
---	------

Invited Signatories

Date

Date

Date

Date

Date

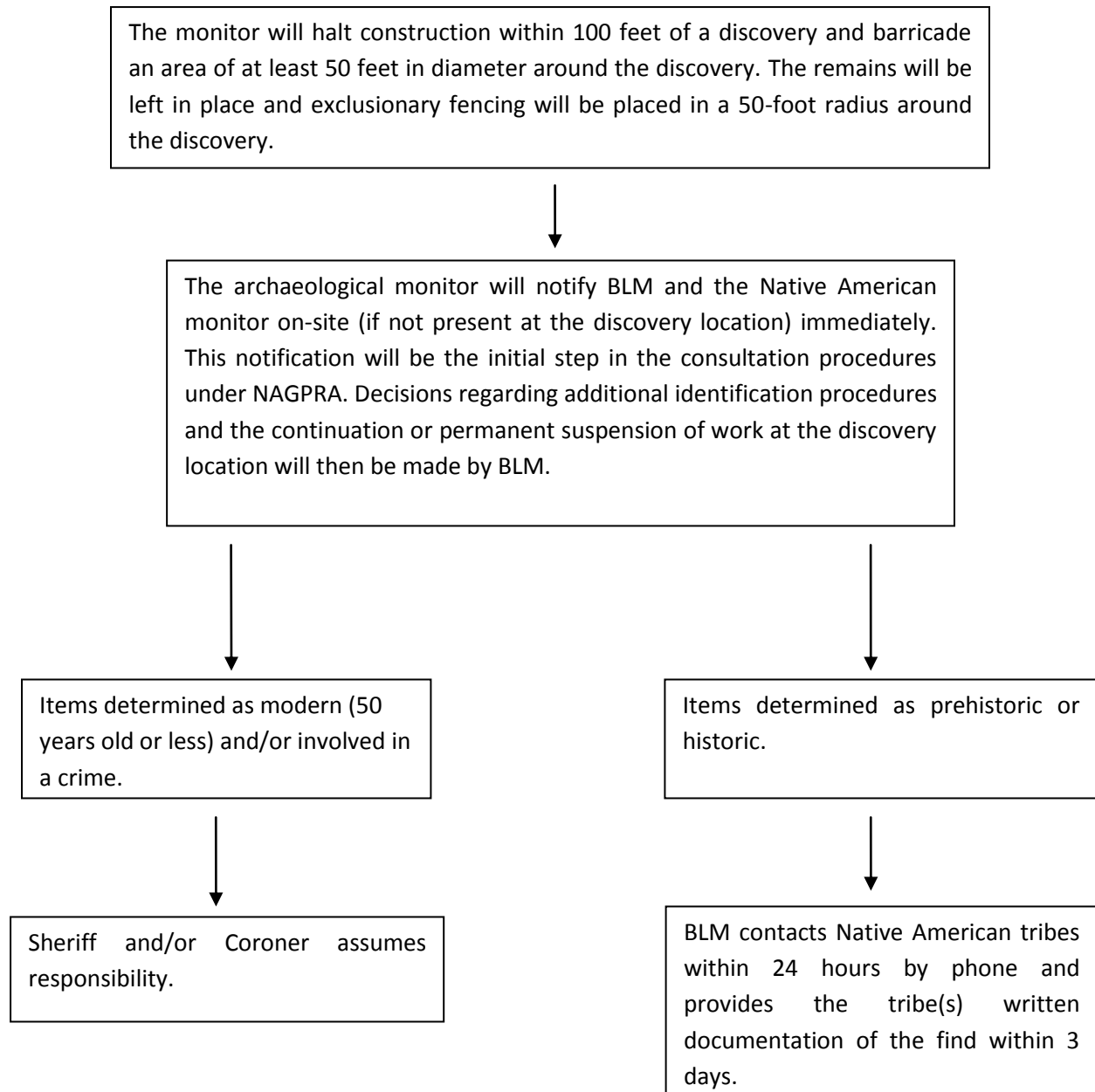
Date

Date

Date

Attachment A

Upon The Discovery of Human Remains, Funerary Objects, Sacred Objects, or Objects of Cultural Patrimony



Attachment B

List of Native American Tribal Contacts

Appendix 4: Environmental and Construction Compliance Monitoring Program



BLYTHE SOLAR POWER PROJECT

Environmental and Construction Compliance Monitoring Program

Palo Verde Solar I, LLC
CACA-48811
CACA-51475
CACA-51476
CACA-51477

For the
Palm Springs Field Office
Palm Springs, California

October 2010

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- I: Variance Request Form
- J: Amendment to the 2007 Memorandum of Understanding
- K: Summary of California Energy Commission Conditions of Certification and Bureau of Land Management Monitoring

List of Acronyms and Abbreviations

AO	Authorized Officer
BLM	United States Bureau of Land Management
BSPP	Blythe Solar Power Project
CBC	California Building Code
CBO	Chief Building Officer
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CPM	Compliance Project Manager
CWA	Clean Water Act
ECCMP	Environmental and Construction Compliance Monitoring Program
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy Management Act
Lead EIs	Lead Environmental Inspectors
LORS	laws, ordinances, regulations, and standards
MW	megawatt
MOU	Memorandum of Understanding
NPS	United States Department of the Interior National Park Service
NTPs	Notices to Proceed
POD	Plan of Development

PVSI	Palo Verde Solar I, LLC
ROD	Record of Decision
ROW	Right-of-Way
RWQCB	Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WEAP	Worker Environmental Awareness Program

1.0 Introduction

1.1 Purpose of This Report

This report presents the objectives of the United States Bureau of Land Management (BLM) Environmental and Construction Compliance Monitoring Program (ECCMP) for the Blythe Solar Power Project (BSPP). This report:

- Describes the responsibilities of the contractor hired to conduct the ECCMP on behalf of the BLM (referred to in this report as the Monitoring Contractor);
- Outlines the level of effort anticipated from the Monitoring Contractor in implementing the ECCMP;
- Defines the decision-making authority of the Monitoring Contractor; and
- Describes participation by the Monitoring Contractor in the Palo Verde Solar I (PVSI) Worker Environmental Awareness Program (WEAP*).

* See Attachment K and refer to CEC Condition of Compliance BIO-6.

The BLM requires holders of right-of-way grants to prepare and fund an environmental compliance monitoring program to ensure compliance with the BLM terms, conditions, and stipulations in the right-of-way grants, the Plan of Development (POD), and other project specific mitigation, terms, and conditions (listed in detail in Chapter 2.0, Objectives of the Environmental and Construction Compliance Monitoring Program).

This report also discusses the monitoring, reporting, and documentation requirements, stop work authority, and the variance process.

1.2 Memorandum of Understanding with the California Energy Commission

In 2007, the BLM and the California Energy Commission (CEC) formalized a Memorandum of Understanding (MOU) for the joint environmental review of solar thermal power plant projects to be located on public lands. In September 2010, that MOU was amended to ensure that the BLM and CEC "...share in construction compliance, environmental compliance, design review, plan check, and construction, maintenance, operation and termination inspection (collectively

“compliance review”) of solar thermal power plant projects on public lands, to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the state and Federal levels, to develop a more efficient compliance review process, and to meet state and Federal requirements.” The MOU amendment is provided in Attachment J, Amendment to the 2007 Memorandum of Understanding.

2.0 Objectives of the Environmental and Construction Compliance Monitoring Program

The overall objective of the Environmental and Construction Compliance Monitoring Program (ECCMP) for the Blythe Solar Power Project (BSPP or Project) is to conduct inspections of construction activities, evaluate compliance or noncompliance with the project measures and conditions during project construction, and document that compliance or noncompliance. This ECCMP specifically focuses on the construction phase of the BSPP. A similar program with phase-specific measures and conditions would be developed and implemented during the Project operation and decommissioning phases. The contractor hired to implement the ECCMP on behalf of the United States Bureau of Land Management (BLM), referred to in this report as the Monitoring Contractor, will provide a Compliance Manager and on-the-ground Compliance Monitors to meet this objective.

The environmental mitigation requirements for BSPP comprise the following:

- Mitigation measures, Project design features, and other measures documented in the Final Environmental Impact Statement (FEIS) and FEIS Errata to be included in the ROD, and as included as Attachment K, *Summary of California Energy Commission Conditions of Certification and Bureau of Land Management Monitoring*, to this document;
- Terms, conditions, and stipulations in the BLM Record of Decision (ROD), right-of-way (ROW) grant, and Notices to Proceed (NTPs) for the Project;
- Construction procedures and mitigation measures in the approved POD for the Project;
- Stipulations, terms, conditions, and other measures from other authorizing Federal agencies' permits and approvals;
- Stipulations, terms, conditions, and other measures from State and regional agencies' permits and approvals, including the California Energy Commission (CEC) decision on the BSPP.

During construction of the BSPP Project, the Compliance Monitors will conduct inspections of construction activities and the implementation of the required mitigation measures, and will provide regular feedback on compliance issues to the BLM and the Monitoring Contractor's Environmental Inspection Team. The Monitoring Contractor will involve other agencies such as USFWS or CDFG in the monitoring and documenting of environmental compliance to the extent requested by those agencies and authorized by the BLM. Construction progress and environmental compliance will be tracked and documented in weekly reports prepared and submitted as described in detail later in Section 4.0, Reporting and Documentation. The Compliance Monitors will report directly to the Compliance Manager. The Compliance Manager will report directly to the BLM Compliance Project Manager (BLM CPM or Authorized Officer [AO]) and other identified Compliance Contacts, such as the CEC CPM, as directed by the BLM. West Coast Code Consultants (WC3) is serving as the BSPP Chief Building Official for the CEC. BLM may choose WC3 or another entity, or, BLM may choose to have an alternate agreement with CEC.

Other objectives of the ECCMP are to:

- Facilitate the timely resolution of compliance-related issues in the field
- Provide continuous information to the BLM and other agencies and parties as authorized regarding noncompliance issues and their resolution
- Review, process, and track construction-related changes to Project plans (as described later in Section 5.0, Variances, the Monitoring Contractor will assist with implementation of the variance process in accordance with a predetermined level of decision-making authority granted by the BLM)
- Develop and implement a system for storing the information collected during the ECCMP in a format that will allow easy retrieval and search functions

The Monitoring Contractor (WC3) shall act as the CEC delegate and Chief Building Official (CBO) for enforcement of applicable local building codes; the California Building Code (CBC); the Facility Design, Geology and Transmission System Engineering Conditions of Certification; the Storm Water Pollution Prevention Plan (SWPPP) and Erosion Control Plan (as directed by the CPM); and other engineering laws, ordinances, regulations, and standards (LORS) applicable to the BSPP to ensure health and safety. The Monitoring Contractor will also be responsible for the design review, plan check, and construction inspection of the foundation, anchorage, and connections for those building and nonbuilding structures, process-related systems and equipment required for power and steam generation, and equipment located either inside or outside of buildings that are designated in the Facility Design Condition.

3.0 Environmental Compliance Monitoring and Management

3.1 Construction Plan

In the event the United States Bureau of Land Management (BLM) approves the BSPP, a right-of-way (ROW) grant will be issued to PVSI. PVSI filed an application with the BLM for a ROW grant pursuant to the Federal Land Policy and Management Act (FLPMA). Under FLPMA Title V (Rights-of-Way), the United States Secretary of the Interior is authorized to grant rights-of-way for the purpose of allowing systems for generation, transmission, and distribution of electric energy.

BSPP would be a primary power-generating facility constructed in multiple phases. Phase 1A would include the construction of a portion of Unit 1 which will be a 250 megawatt (MW) facility with the following phases adding more units, resulting in a 1,000 MW facility. In addition to the solar thermal power plant fields, BSPP would include a generation-tie transmission line, natural gas pipeline, telecommunications fiber optic cable, temporary construction power line, access road, administration building, power blocks, rerouted drainage channels, bioremediation areas, parking area, assembly hall/warehouse, and construction laydown area.

3.2 Compliance Monitoring and Management

The Monitoring Contractor's compliance team will consist of the following personnel:

- Compliance Manager: point of contact position designated by the Monitoring Contractor for all compliance related issues; reports to the BLM Authorized Officer or the designated BLM Compliance Project Manager for all compliance related issues.
- Compliance Monitors: on the ground Monitoring Contractor personnel responsible for observing and reporting compliance with the terms and conditions of the BLM right-of-way authorization for all phases of Project construction.

The BLM's compliance representatives for the BSPP Project are:

- BLM Authorized Officer (AO): the BLM Palm Springs Field Office official with the administrative authority for the right-of-way grant issuance and authority for accepting and approving Project related changes

- BLM Compliance Project Manager (BLM CPM): staff level position designated by the BLM AO as the point of contact for all compliance issues.

Palm Springs Field Office Compliance Lead: The BLM may also identify additional persons as designated Compliance Contacts, as needed.

The Monitoring Contractor will shall enter into a contract for the Project with Palo Verde Solar I, LLC for the payment of the BLM compliance monitoring services provided by the Monitoring Contractor. Those fees will be based on hourly rates, or as otherwise agreed to by the Monitoring Contractor and PVSI. Payments to the Monitoring Contractor for work satisfactorily completed may be paid directly to the Monitoring Contractor in advance, in arrears, or from a credit account established with the Monitoring Contractor by PVSI. The contract between PVSI and the Monitoring Contractor will include a provision that PVSI may not terminate the contract with, or payments to, the Monitoring Contractor without prior authorization of the BLM AO.

The Monitoring Contractor works for, reports to, and takes direction from the BLM and not PVSI.

3.2.1 Palo Verde Solar I Contacts

PVSI has designated the following contact persons for the construction of the BSPP*:

- Naim Triki, Director of EPC Management, 510-524-4517
- Nicole Tenenbaum, Compliance Program Manager, 510-463-6505

*PVSI maintains the right to update or revise the contact persons for BSPP.

3.2.2 Compliance Manager

The Monitoring Contractor's Compliance Manager for the BSPP will oversee management of the Environmental and Construction Compliance Monitoring Program, prepare Project materials, participate in any BLM preconstruction meeting; participate in PVSI's Worker Environmental Awareness Program; supervise the monitoring activities, materials, and schedules; supervise the Compliance Monitors; provide guidance on and review of compliance issues; review and process variance requests; and review and distribute weekly reports.

Specific Monitoring Contractor's Compliance Manager responsibilities are:

- Report directly to the BLM CPM or BLM AO or other designated BLM Compliance Contacts;
- Participate in the preconstruction meeting;
- Participate in Worker Environmental Awareness Program/kick-off;
- Verify PVSI's compliance with the Project environmental requirements that are separate from the CEC Conditions of Certification;
- Supervise the monitoring activities, materials, and schedules;
- Supervise the Compliance Monitors;
- Ensure that all reported noncompliance is tracked for resolution by PVSI;
- Review, approve, and distribute monitoring reports, correspondence, and scope of work and schedule changes;
- Review work progress, schedules, and budgets related to compliance monitoring activities;
- Confer with the BLM CPM and Compliance Contacts on a regular basis;
- Serve as the contact between BLM and PVSI for compliance issues;
- Serve as BLM's representative to permitting agencies, private landowners, and special interest groups regarding the environmental mitigation efforts on the Project; and
- Coordinate with the BLM and other agencies, as determined necessary, on reviewing and approving variance requests.
- The Compliance Manager will be selected from one of the Compliance Monitors. The responsibilities of this individual will consist of both Compliance Manager and Compliance Monitor. In effect, when only one Compliance Monitor is onsite, that individual will serve as the Compliance Manager. On occasions when more than one Compliance Manager is onsite, the Monitoring Contractor will identify one of the Compliance Monitors to act as the Compliance Manager.

3.2.3 Coordinate with the BLM and other agencies, as determined necessary, on reviewing and approving variance requests.

Compliance Monitors

Based on discussions with the BLM CPM and the California Energy Commission (CEC) CPM, the Monitoring Contractor will provide sufficient full-time on-the-ground Compliance Monitors during construction of all phases of the Project. The number of Compliance Monitors will be determined based on the specific activities during each construction phase. Specifically, the need for the full-time Compliance Monitors may be re-evaluated throughout the construction phase and a schedule adjusted, as necessary, as conditions demand.

During construction, many factors may affect the specific deployment of the Compliance Monitors. These include the activity occurring at specific times of inspection, any noncompliance or problem areas documented during previous inspections by the Compliance Monitors, site-specific conditions at the time of construction, skill levels and attitudes of the contractor crews and foremen, and the number of inspection team members.

The Monitoring Contractor's planned monitoring coverage assumes that the construction contractors will demonstrate a high level of environmental compliance, and that PVSI's environmental inspectors and biological monitors will be qualified and experienced.

The Compliance Manager will regularly evaluate the effectiveness of the environmental compliance monitoring in consultation with the BLM and CEC CPM and Compliance Contacts to ensure adequate staffing. If determined necessary, the Monitoring Contractor will provide additional, adequately trained support staff to act as Compliance Monitors on an as-needed basis.

The primary responsibility of the Compliance Monitors will be to monitor and document PVSI's construction, compliance, and/or noncompliance with the Project building, engineering, installation, and environmental requirements. The Compliance Monitors will also review and approve variance requests, as appropriate to their authority level, for implementation of limited variations from mitigation measures previously agreed to by PVSI or stipulated by other agencies (refer to Section 5.0, Variances).

Prior to the start of construction, the Compliance Monitors will become familiar with the PVSI environmental compliance management program, participate in the preconstruction meeting, participate in the PVSI Worker Environmental Awareness Program, and receive additional training as needed from the Monitoring Contractor. The Compliance Monitors will become familiar with the roles and responsibilities of the PVSI field team, environmental inspectors, the required building codes, fire codes, construction documents, other relevant building standards,

environmental reporting responsibilities, and the chain of communication. It is assumed that PVSI will provide the Compliance Monitors and the Compliance Manager with copies of all permit requirements for the Project prior to initiation of construction.

At a minimum, the Compliance Monitors will maintain contact with the PVSI environmental compliance staff. Construction activities will be inspected by the Compliance Monitors, and environmentally sensitive areas will be regularly inspected to ensure protection of the identified resources.

The Compliance Monitors will communicate with the PVSI compliance staff on a regular basis. This approach will allow the Inspectors and the Compliance Monitors to exchange information on the status of construction and to discuss any significant construction events scheduled over the next 2 or 3 days. The Compliance Monitors may inspect all activities either with the PVSI inspectors or independently. The Compliance Monitors will have the authority to order the halt of a specific noncompliance activity that is damaging, has the potential to damage a sensitive environmental resource, or is not being performed according to building and construction standards.

The Compliance Monitors will record observations, including digital photo documentation at each location visited. This process will ensure consistent and accurate reporting of site conditions at the time of inspection. Each activity monitored will be assigned a compliance level and documented in a weekly report (refer to Section 4.1, Weekly Reports).

4.0 Reporting and Documentation

It is anticipated that the Monitoring Contractor and all compliance monitoring personnel will use a comprehensive weekly summary database reporting system that is posted on a BSPP website (refer to Section 4.3, Non-Public Project Website) and available for review to other jurisdictional agencies. Under this program, each entire weekly report, consisting of all compliance levels and photographic documentation from logs, will be available each week and will provide the United States Bureau of Land Management (BLM) project personnel, PVSI, and applicable agencies with a readily accessible record of construction progress, photographic documentation, and documentation of compliance with the Project environmental requirements. The specifics of the reporting and documentation to be used for the BSPP are described in the following sections.

4.1 Weekly Reports

Each Compliance Monitor will compile his/her activity logs and contact information documents into a weekly report on the required cover and form provided in Attachments A and B, respectively. A weekly report will be maintained for the BSPP. The Compliance Monitor will document the construction level as a percent complete or other identifying method as agreed to by the BLM; the presence of sensitive species or habitat and culturally sensitive sites; and provide a brief description of the construction activities observed (such as road grading, erosion control, etc.). When appropriate, relevant digital photographs will be taken and included in the weekly report.

Each separate activity monitored and documented in a log will be assigned a compliance level. The compliance levels that will be used for the BSPP are:

- Communication;
- Acceptable;
- Problem Area;
- Noncompliance; and
- Serious Violation.

4.1.1 Communication

A Communication Report will be prepared when necessary to document and track relevant meetings or discussions between the Compliance Monitor and agencies, PVSI representatives, monitors, inspectors, or other contractor personnel.

4.1.2 Acceptable

An Acceptable Report will be prepared when a Compliance Monitor determines that an inspected area or activity is in compliance with the Project specifications and all mitigation measures have been adequately implemented.

4.1.3 Problem Area

The Compliance Monitor will prepare a Problem Area Report to record an observation that a location or activity does not meet the definition of acceptable but is not considered a noncompliance. The problem area category will be used to report a range of events and observations including:

- An incident that is accidental or unforeseeable but is not out of compliance with the Project specifications, and PVSI's response is appropriate and timely. An example would be a fuel leak where Project personnel respond properly by stopping, containing, and cleaning up the spill in accordance with the Project specifications.
- A location where the Project is not out of compliance with the specifications but, in the judgment of the Compliance Monitor, damage to resources could occur if corrective actions are not taken. Some examples are:
 - A topsoil pile located on the bank of a drainage; or
 - An improperly constructed/located erosion control structure.
- An activity that the Compliance Monitor determines is an unintentional and isolated departure from the Project specifications, with no damage to resources. An example would be a small amount of blading or mowing outside the access pathway that has no effect on sensitive resources such as sensitive plant habitat or a water body.

If a problem area is resolved in a timely manner, it will not be considered a noncompliance. If a problem area is found to be a repeat situation or multiple instances of a similar nature occur, is not corrected within the established time frame, or results in resource damage because timely

corrective action failed to occur, the Compliance Monitor may document the problem area as a noncompliance as described in the following section.

4.1.4 Noncompliance

A Noncompliance Report will be issued when a Compliance Monitor observes an activity that violates (defined as not in compliance with) the Project specifications, building codes, or other requirements; results in damage to resources; or places sensitive resources, personal safety or worker safety at unnecessary risk. Some examples of noncompliance activities are:

- Failure to install or maintain required erosion control devices;
- Surface-disturbing activities conducted without an appropriate biological or cultural resources monitor present.

The Compliance Monitor will notify PVSI compliance staff about a noncompliance before issuing a Noncompliance Report. The Noncompliance Report will include the name of the inspector or monitor and the time of notification. Where practicable and where the nature of the noncompliance activity warrants, the inspector or monitor will work closely and collaboratively with the Compliance Monitor to determine the appropriate corrective action.

Resolution of noncompliance activities will involve close coordination with the PVSI compliance staff, the Chief Building Officer (CBO), the BLM Compliance Project Manager (BLM CPM), and contractor construction supervisory personnel to ensure that the corrective measures are properly understood and implemented. It is the responsibility of the PVSI compliance staff to provide follow-up documentation to the BLM and other agencies with appropriate jurisdiction over the issue as well as to the Compliance Manager. Once PVSI documents the resolution of a noncompliance, the applicable Compliance Monitor will inspect the area and verify and document that the noncompliance has been adequately resolved.

4.1.5 Serious Violation

A Serious Violation Report will be issued by a Compliance Monitor immediately on observing an activity that is not in compliance with the Project specifications and causes substantial harm to resources or poses a serious threat to sensitive resources or worker/public safety. Examples of serious violations include deliberately conducting an activity that results in disturbance within an exclusion zone for a sensitive resource, repeated or cumulative noncompliance activities that could lead to a substantial impact on resources, and failure to correct previously identified noncompliance activities in an established time frame.

A Serious Violation Report requires that the Compliance Manager and the BLM CPM participate in a conference call or meeting with the PVSI compliance staff for the Project and Compliance Manager to discuss the violation, the proper corrective actions, and possible follow-up enforcement actions that could be imposed. It will be the responsibility of the PVSI environmental inspection team to provide follow-up documentation to the BLM and other agencies with appropriate jurisdiction over the issue as well as to the Compliance Manager. Once PVSI documents the resolution of a serious violation, the Compliance Monitor will inspect the area and verify that the issue has been adequately resolved.

Inspections and relevant photo documentation completed by each Compliance Monitor will be sent electronically to the Monitoring Contractor's database server at the end of each work week. The following morning, the separate reports will be compiled into one Weekly Monitoring Report, reviewed by the Compliance Manager, and posted on the non-public password-protected Project website (refer to Section 4.3, Non-Public Project Website). A flow diagram of the electronic web-based reporting system is shown on Figure 1. When the reports are posted, the Compliance Manager will send an email to the authorized distribution stating that the reports are available. The email will summarize the compliance levels for the reports issued each day and include the link to the website. The BLM, Monitoring Contractor, and authorized PVSI representatives will be included in the distribution for all reports.

4.2 Monthly Summary Reports

Monthly Summary Reports will be issued that briefly describe construction activities during the reporting period and summarize by compliance level the number of reports completed by the Compliance Monitors during that reporting period and cumulatively for the construction period for that project phase. The Monthly Summary Report will also include a table of Problem Area and Noncompliance Reports issued by the Compliance Monitors during the reporting period and the Level 1, 2, and 3 variance requests approved by the Compliance Monitors and the Compliance Manager during the reporting period. The Monthly Summary Report will also include a table summarizing the net acreage of land affected by approved variances on federal land and, for the Archeological Resources Protection Act and Endangered Species Act, nonfederal land for the reporting period as well as cumulatively. The Monitoring Contractor's baseline electronic database reporting system will be designed to generate all the information in the tables of the Monthly Summary Report.

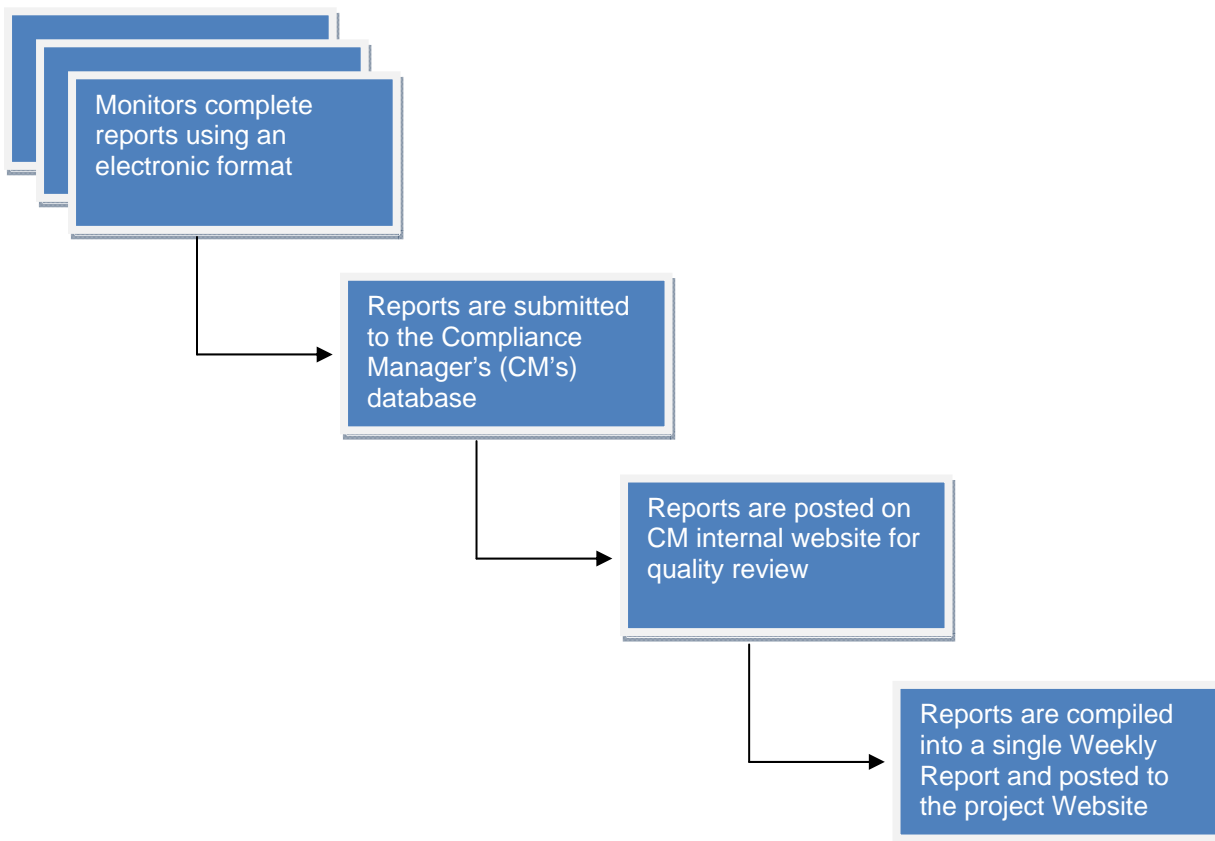


Figure 1: Electronic Web-Based Reporting System

The Monthly Summary Reports will be posted on the non-public Project website (refer to Section 4.3). When the Monthly Summary Report is posted, the Compliance Manager will send an email to the authorized distribution that it is available. The email will include the link to the website. The BLM, Monitoring Contractor, and PVSI representatives will be included in the distribution for the Monthly Summary Report. A sample Monthly Summary Report is provided in Attachment C.

4.3 Non-Public Project Website

The Monitoring Contractor will establish and maintain a non-public, password-protected project website to display the weekly and monthly monitoring reports and the approved Level 1, 2, and 3 variances (refer to Section 5.0, Variances). The BSPP website may also be used to post meeting minutes, notes from conference calls, and guidance from agencies regarding interpretation of environmental requirements. The BLM and Monitoring Contractor representatives will have access to the entire website. The PVSI representatives will have access to the website.

5.0 Variances

During construction of the BSPP, unforeseen or unavoidable site conditions could result in the need for changes from the approved mitigation measures and construction procedures. Additionally, the need for route realignments, extra workspace, or changes to previously approved construction work areas may arise. Changes to previously approved mitigation measures, construction procedures, and construction work areas will be handled in the form of variance requests to be submitted by PVSI and reviewed and approved or denied by the United States Bureau of Land Management (BLM), with the delegation of some authority for variances to the Monitoring Contractor. The variance process will also be a good mechanism to clarify discrepancies or inconsistencies discovered in project materials and/or to distribute information to the entire project team.

A system of three variance levels (Levels 1, 2, and 3) will be used to categorize and process variance requests. The three variance levels, the review and distribution process, and the decision-making authority proposed for each level are discussed in the following sections. A sample Variance Request Form is provided in Attachment I.

5.1 Level 1 Variances (Field Decisions)

Level 1 variances are site-specific, minor, performance-based changes to Project specifications, construction methods, or mitigation measures that provide equal or better protection to environmental resources or better constructability. These minor variance requests can be reviewed and either approved or denied by the Compliance Monitors in the field during normal construction operations.

Examples of Level 1 variance requests include:

- Allowing rubber-tired vehicles to use additional access roads that would not require any improvement to the road or repairs after construction (“like use”);
- Modifications to erosion control structure locations to minimize erosion potential;
- Minor variations in site-specific plans that reflect differences in site conditions from those that were expected when the plan was developed (e.g., relocation of a spoil storage area within previously approved work areas); and
- Minor changes to the Project design that are required due to site-specific restrictions.

Level 1 variances may also be used to document and disseminate agency-directed changes to mitigation measures.

To initiate a Level 1 variance request, PVSI's representative will fill out a Variance Request Form using the form in Attachment H and obtain the appropriate signatures. PVSI's representative will then contact a Compliance Monitor to review the proposed change. PVSI's representative and the Compliance Monitor will work together to evaluate the site-specific situation and determine if the variance request is appropriate.

The Compliance Monitor may approve a Level 1 variance request if the results of implementing the change will provide equal or better protection for the resource than the original mitigation measure or if the original mitigation measure is not applicable to that specific site. If a Level 1 variance request is approved in the field, the Compliance Monitor will sign the Variance Request Form. A Level 1 variance request can be implemented in the field as soon as it is approved by the Compliance Monitor.

The Compliance Monitor will document the variance approval in his/her log and will include the variance in the weekly report (refer to Section 4.1, Weekly Reports) and will transmit the approved form to the Compliance Manager for posting on the project website (refer to Section 4.3, Non-Public Website).

If the requested variance exceeds the Compliance Monitor's authority level, the Compliance Monitor will inform PVSI's representative that a Level 2 or Level 3 variance request is required.

5.2 Level 2 Variances

A Level 2 variance request exceeds the field decision authority of the Compliance Monitor and requires processing by the Compliance Manager. Before the Compliance Manager can issue approval of a Level 2 variance request on federal land, the BLM Compliance Project Manager (BLM CPM) must approve the request. Level 2 variance requests generally involve project changes that would affect an area outside the previously approved work area, but within the areas previously surveyed for cultural resources, sensitive species, and biological resources. Level 2 variance requests typically require the review of supplemental documents, correspondence, and records.

Examples of Level 2 variance requests include:

- The use of extra workspace outside the previously approved work area but within previously surveyed areas;

- The use of existing access roads that have not been previously approved if the use would not be considered “like use” that could be approved as a Level 1 variance (refer to Section 5.1, Level 1 Variances);
- Modifying a previously approved erosion control structure in ways not previously identified; and
- Modifications to the plans that are specifically different than those in the approved POD.

To initiate a Level 2 variance request, PVSI’s representative or other designated representative will fill out a Variance Request Form, prepare the appropriate supporting documentation, and obtain the required signatures.

A PVSI representative will complete and submit the Variance Request Form and supporting documentation by e-mail (scanned copy) or fax to the applicable BLM CPM with a copy to the Compliance Manager. Once the approval of the BLM CPM is obtained, the Compliance Manager will process the request.

If the Level 2 variance request is approved, the Compliance Manager will sign the variance request and e-mail the approved form (scanned copy) to the designated PVSI representatives, the Compliance Monitors, and the BLM CPM and Compliance Contacts. The variance may be implemented in the field as soon as the approved variance is received. Verbal approval for Level 2 variance requests will not be granted. The Compliance Manager will document the variance approval in the log and will include it in the weekly report (refer to Section 4.1) and post the approved Variance Request Form on the project website (refer to Section 4.3).

5.3 Level 3 Variances

Level 3 variance requests generally involve project changes that would affect an area outside the previously approved work area that are outside the areas previously surveyed for cultural resources, sensitive species, and biological resources, or one that would change the function, structure, technology required, or other part of the project previously approved in the POD. Level 3 variances may need to be implemented through an amendment to the right-of-way (ROW) grant.

To initiate a Level 3 variance request, PVSI’s representative or other designated representative will fill out a Variance Request Form, prepare the appropriate supporting documentation, and obtain the required signatures.

The designated PVSI representative will complete and submit the Variance Request Form and supporting documentation by e-mail (scanned copy) or fax to the applicable BLM CPM and the Compliance Manager. Once the approval of the BLM CPM is obtained, the Compliance Manager will process the request.

Level 3 variance request approvals must be signed by the BLM CPM or the BLM Authorized Officer (AO) in the case of a ROW grant amendment. The variance may be implemented in the field as soon as the approved variance is received. The Compliance Manager will document the variance approval in the log and weekly report (refer to Section 4.1) and post the approved Variance Request Form on the project website (refer to Section 4.3).

6.0 Stop Work Authority

The United States Bureau of Land Management (BLM) has the authority to stop construction of the Blythe Solar Power Project if an activity is determined to be a deviation from the Project environmental and cultural resource protection requirements or approved construction plans authorized by the BLM ROW grant. This authority may be delegated to the Monitoring Contractor, the Compliance Manager, and/or the Compliance Monitors, as determined appropriate by the BLM. Any order to stop an activity will be followed by a formal written immediate temporary suspension from the BLM Compliance Project Manager (BLM CPM) or the BLM Authorized Officer (AO).

7.0 Training and Preconstruction Meeting

The Monitoring Contractor will ensure that PVSI prepares and conducts a Worker Environmental Awareness Program (WEAP) for the construction contractor personnel prior to the start of construction. The United States Bureau of Land Management (BLM) Project Manager and Compliance Contacts, and the Monitoring Contractor's Compliance Manager, Assistant Compliance Manager, and Compliance Monitors will participate in the WEAP to present an overview of the Environmental and Construction Compliance Monitoring Program (ECCMP) and to become familiar with PVSI environmental inspection program and personnel. The Monitoring Contractor's Compliance Manager or the BLM Compliance Project Manager (BLM CPM) will explain the various components of the ECCMP, emphasizing the objectives of the ECCMP. The discussion will focus on the activities of the Compliance Monitors and their interactions with PVSI compliance staff and construction personnel.

The monitoring and documentation of compliance issues and construction progress will be described. A clear and concise explanation will be presented with respect to the variance request decision authority that the Compliance Monitors will have in the field. Procedures that may be required to address variance requests will also be presented, as well as the time frame required for decisions to be made prior to implementation.

Before the PVSI training, the Monitoring Contractor will ensure that BLM participates in a preconstruction meeting. At that meeting, the BLM CPM will discuss the requirements of the Record of Decision (ROD), the additional stipulations, and the right-of-way (ROW) grant as well as those of the Plan of Development (POD). The Mitigation Monitoring Contractor's Compliance Manager and one Compliance Monitor will participate in this preconstruction meeting.

In addition to participation in the PVSI's WEAP and the preconstruction meeting, the Monitoring Contractor will train the Compliance Monitors in all project-specific procedures, duties, responsibilities, reporting requirements, and authorities, which includes the authority to grant variances, to complete their assigned tasks during monitoring of the BSPP construction activities.

8.0 Equipment

Personnel responsible for monitoring and documenting compliance with the measures in the Environmental and Construction Compliance Monitoring Program (ECCMP) will require field support equipment. Specifically, the Monitoring Contractor's Compliance Manager, Assistant Compliance Manager, and each Compliance Monitor will be equipped with a digital camera and a cellular phone. Additional equipment such as binoculars may also be needed, but would be provided on an as-needed basis.

Attachment A

Monitoring Report Cover Page Form

PROJECT: BLYTHE SOLAR POWER PROJECT

COMPLIANCE MONITORING PROGRAM

MONITORING REPORT COVER PAGE

SAMPLE MONITORING REPORT (COVER PAGE)

The following report is a compilation of the monitoring reports issued by the Compliance Monitors and/or Compliance Manager for activities conducted on [Month] [Day], 20[XX]. Should you have any questions regarding the information contained in this report, please contact MONITOR at (XXX) XXX-XXXX (office) or (XXX) XXX-XXXX (cell phone).

Communication

Acceptable

Problem Area

Noncompliance

Serious Violation

Approved Level 1 Variance

Approved Level 2 Variance

Approved Level 3 Variance

Compliance Level

Total Reports

Attachment B

Monitoring Report Form

PROJECT: BLYTHE SOLAR POWER PROJECT

ENVIRONMENTAL COMPLIANCE MONITORING PROGRAM

MONITORING REPORT

Report Number: _____ Date of Report: _____

Compliance Monitor: _____ Compliance Level: _____

Environmental Inspector: _____ Construction Method: _____

Location

Construction Spread: _____ Tract #: _____ Tract #: _____ Tract #: _____

Begin Milepost: _____ End Milepost: _____

Begin Station: _____ End Station: _____

Inspection Notes:

Photos:

Attachment C

Monthly Summary Report Form

DEVELOPER: PALO VERDE SOLAR I, LLC

PROJECT: BLYTHE SOLAR POWER PROJECT

**Environmental Compliance Monitoring Program
Summary Report for the Period: XX-XX, 20XX**

The following is a summary of the reports issued by the Compliance Monitors and Compliance Manager for activities conducted between XX-XX, 20XX. This report also summarizes Level 1, 2, and 3 variance requests approved during the same period. The environmental compliance monitoring program for the Blythe Solar Power Project is being implemented under the direction of the Bureau of Land Management (BLM). Copies of the monitoring reports and approved Level 1, 2, and 3 variance requests are posted and available for review on the environmental compliance monitoring program website.

Should you have any questions regarding the information contained in this report, please contact MONITOR at (XXX) XXX-XXXX (office) or (XXX) XXX-XXXX (cell phone).

SUMMARY OF ACTIVITIES

Between XX-XX, 20XX, the Compliance Monitors and Compliance Manager issued eight monitoring reports. A tabular summary of the reports by compliance level is presented below.

PROJECT: Blythe Solar Power Project

ENVIRONMENTAL COMPLIANCE MONITORING PROGRAM Summary of Monitoring Reports for the Period: XX-XX, 20XX

Compliance Level	Compliance Reports for the Period	Cumulative Compliance Reports for the Project
Communication	X	X
Acceptable	X	X
Problem Area	X	X
Noncompliance	X	X
Serious Violation	X	X
Approved Level 1 Variance	X	X
Approved Level 2 Variance	X	X
Approved Level 3 Variance	X	X
Total Reports	X	X

During this period, three full-time Compliance Monitors conducted inspections of project-related activities and documented PVSI's compliance with the project documents and permits. The Compliance Monitors continued to coordinate with PVSI's Lead Environmental Inspectors (Lead EIs) and other EIs to inspect and discuss areas of concern prior to construction, review areas potentially subject to variance requests, assist with resolution of landowner complaints, and clarify interpretations of the project requirements. The activities of the three Compliance Monitors were directed by the Compliance Manager who continued to coordinate with the BLM as well as with _____'s field management and support staff.

A brief summary of the activities conducted during the reporting period is presented below. Copies of the detailed monitoring reports that were used to prepare this summary are posted and available for review on the environmental compliance monitoring program website.

Summary of Activities
<p>A brief text summary of activities that occurred by spread during the reporting period will be provided here</p>

PROBLEM AREAS AND NONCOMPLIANCES

One Problem Area Report and no Noncompliance Reports were issued by the Compliance Monitors between XX-XX, 200X as shown in the table below. The Compliance Monitors were notified of one Noncompliance Report issued by PVSI's EIs.

SUMMARY OF PROBLEM AREA AND NONCOMPLIANCE REPORTS

Compliance Level/Report Number	Date Issued	Location (Spread/Milepost)	Description	Corrective Action
Problem Area				
-None-				
Monitoring Report #XX	X/X/200X	Spread X – X.X	A construction vehicle was parked outside of the approved right-of-way.	The Lead EI was notified and contacted the foreman to have the vehicle moved back onto the approved workspace.
Noncompliance				
-None-				
It was reported to the Compliance Monitors that the _____ EIs issued one noncompliance report. This noncompliance occurred on Spread X on XX, 200X and was issued to the trenching crew for partially burying the windrowed seedbank with trench spoil for approximately 1,000 feet.				

VARIANCES

One Level 1 variance request was approved during the period. No Level 2 and no Level 3 variance requests were approved between XX-XX, 200X as shown in the table below. A summary of the acreage of land affected by the approved variance requests is also provided below.

SUMMARY OF APPROVED LEVEL 1, 2, AND 3 VARIANCES

Variance Number	Date Issued	Location (Spread/Milepost)	Brief Description	Net Acreage Affected – Federal Land	Net Acreage Affected – Non-Federal Land
LEVEL 1					
XX-XX-001	X/X/200X	Spread X - X.X	Approved the like-use of an existing gravel road. This road is needed to allow travel around and 8-inch-diameter aboveground waterline that crosses the right-of-way.	X.X	X.X
LEVEL 2					
-None-					
LEVEL 3					
-None-					

SUMMARY OF ACREAGE AFFECTED BY VARIANCES

	Acreage Affected This Reporting Period	Cumulative Acreage Affected
Federal Land	X.X	X.X
Non-Federal Land with some Federal Jurisdiction	X.X	X.X
Total	X.X	X.X
Includes variances on non-Federal land that are within 300 feet of previously identified cultural resources or listed species or their habitat.		

Attachment D

BLM Authorized Officer Report



BLM Authorized Officer Weekly Report

Address:
City, State Zip

Phone:
Fax:

Website:

Project: Blythe Solar Power Project

Weekly Project Update

Project:

Week Ending:

Prepared By:

1. Executive Summary of Current Issues

The following construction activities were observed onsite:

General:

Civil:

STG:

BOP Equipment:

Concrete Placement:

BLM Authorized Officer NOTE:

Plan Review Submittal Items

Submittal Type	Description
Received, Review Pending	
Reviewed and Approved / Conditionally Approved	
Reviewed and Correction List Issues	

Inspection:

2. General Activities Occurring at the Project Site**3. Completion Percentage of Overall Construction**

WEEK	PERIOD OF PROJECTION	% COMPLETE (PROJECTED)	% COMPLETE (UPDATED)

Table Note 1: The percentage complete is an estimate only and is not derived directly from the project schedule.

Table Note 2: Number of weeks from project CEC Notice to Proceed/Start Date.

**4. Compliance Issues with Applicable LORS and Applicable Conditions of Certification
(e.g., areas out of compliance, interpretational disagreements, etc.)****5. Issues of Concern with or by the Applicant**

6. Status of Interconnections (e.g., Fuel Gas, Water Connections, Electricity to Grid, etc.)

7. Scheduled Activities for Next Week

8. Potential Delays to the Online Date of the Project

9. Project Photographs from Week

Attachment E

Certification of Completion of Worker Environmental Awareness Program

Certification of Completion Worker Environmental Awareness Program

This is to certify these individuals have completed a mandatory Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on cultural, paleontological, and biological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

No.	Employee Name	Title/Company	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			
21.			
22.			
23.			
24.			
25.			

Cultural Trainer: _____

Signature: _____

Date: ____/____/____

Paleo Trainer: _____

Signature: _____

Date: ____/____/____

Biological Trainer: _____

Signature: _____

Date: ____/____/____

Attachment F

Complaint Report/Resolution Form

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number: _____
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written) Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by project personnel: Indicate if complaint relates to violation of the ROW Grant. Indicate if complaint relates to violation of a BLM requirement. Date complainant contacted to discuss findings: _____
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution. If not, explain: Other relevant information:
If corrective action necessary, date completed: _____ Date first letter sent to complainant: _____ (copy attached) Date final letter sent to complainant: _____ (copy attached)
This information is certified to be correct. Project: _____ Manager's Signature: _____ Date: _____

(Attach additional pages and supporting documentation, as required.)

Attachment G

Key Events List

KEY EVENTS LIST

PROJECT: _____ DOCKET #: _____

BLM'S AUTHORIZED OFFICER: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION	DATE
Certification Date	
Obtain Site Control	
Online Date	
PROJECT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First Roll of Steam Turbine	
Obtain Building Occupation Permit	
Start Commercial Operation	
Complete All Construction	
GENERATION TIE LINE ACTIVITIES	
Start Generation Tie Line Construction	
Synchronization with Grid and Interconnection	
Complete Generation Tie Line Construction	
FUEL SUPPLY LINE ACTIVITIES	
Start Gas Pipeline Construction and Interconnection	
Complete Gas Pipeline Construction	

Attachment H

Non-Conformity Report

**NON-CONFORMITY REPORT****Company Name**

Address:

Phone:

Website:

City, State Zip

Fax:

Inspection Agency:	Date:
Building:	Reference:
Type of Inspection:	Inspected By:

DATE, LOCATION AND ITEMS INSPECTED:

DATE, LOCATION & TESTS PERFORMED:

LIST NON-CONFORMING ITEMS *WITH* CORRECTIONS:

LIST NON-CONFORMING ITEMS *WITHOUT* CORRECTIONS:

LIST AUTHORIZED CHANGES TO THE APPROVED PLAN – *INCLUDE R.F.I. NUMBER*

R.F.I. #	

Attachment I

Variance Request Form

Variance Request Form			
<div style="border: 1px solid black; width: 80px; height: 80px; margin: 0 auto; text-align: center; line-height: 80px;">LOGO</div>	COMPANY ADDRESS CITY, STATE ZIP PHONE	Variance: _____ Request No.: _____ Date Submit: _____ Date Approval Needed: _____ Date Agency Received: _____ Agency Approval Reference No.: _____	
Request Prepared by: Spread/ Location (Milepost): Alignment Sheet / Sta. No.: Landowner: Current Land Use/ Vegetative Cover: Nearby Features (Water body, T&E Habitat, Wetland, Noxious Weed) Area, Residence, Cultural Resource Site (distance, etc.):			
Net acreage affected: _____ Tract No: _____		In or within 50 feet of a wetland: <input type="checkbox"/> Yes <input type="checkbox"/> No Within 50 feet of a water body: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Variance Level: <input type="checkbox"/> Level 1 <input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3 (To Be Assigned by Designated Representative)			
Variance From: <input type="checkbox"/> Permit <input type="checkbox"/> Plan/Procedure <input type="checkbox"/> Specification <input type="checkbox"/> Drawing <input type="checkbox"/> Mitigation Measure <input type="checkbox"/> Other:			
Detailed Description of Variance: _____ Attachments? <input type="checkbox"/> Yes <input type="checkbox"/> No Photos? <input type="checkbox"/> Yes <input type="checkbox"/> No			
Variance Justification:			
For (Company Name) Use Only			
Additional Surveys Required	Surveyed Corridor Description	Additional Surveys Completed	
Cultural Survey <input type="checkbox"/> Yes <input type="checkbox"/> No T & E Survey <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	
Report Documenting Survey:			
Sign-off (as appropriate)	Name (print)	Approval Signature	Conditions (See Attached)
Contractor Sup't. or Env. Coordinator			<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead Environmental Inspector			<input type="checkbox"/> Yes <input type="checkbox"/> No
Spread Supervisor			<input type="checkbox"/> Yes <input type="checkbox"/> No
Environmental Field Manager			<input type="checkbox"/> Yes <input type="checkbox"/> No
ROW Agent			<input type="checkbox"/> Yes <input type="checkbox"/> No
For BLM Project Manager or Compliance Contact Use Only			
Variance Approved: <input type="checkbox"/> Variance Denied: <input type="checkbox"/>		Date: _____	
Signature: _____			
For Compliance Manager and Monitor Use Only			
Variance Approved: _____		Variance Denied: _____	
Date: _____			
Signature: _____			
Stipulations: _____			

Spread:		OPPC Variance Request No.:	
VARIANCE CONDITIONS			
Name:		Title:	
		Organization:	
Conditions:			
Name:		Title:	
		Organization:	
Conditions:			
Name:		Title:	
		Organization:	
Conditions:			

Attachment J

Amendment to the 2007 Memorandum of Understanding

**AMENDMENT TO THE 2007 MEMORANDUM OF
UNDERSTANDING
BETWEEN THE BUREAU OF LAND MANAGEMENT and
THE CALIFORNIA ENERGY COMMISSION**

**CONCERNING CONSTRUCTION COMPLIANCE, ENVIRONMENTAL COMPLIANCE,
DESIGN REVIEW, PLAN CHECK, AND CONSTRUCTION INSPECTION OF SOLAR
THERMAL POWER PLANT PROJECTS ON PUBLIC LANDS**

I. BACKGROUND

On August 8, 2007, the Bureau of Land Management (“BLM”) and the California Energy Commission (“Commission”) formalized a Memorandum of Understanding (“2007 MOU”) for joint environmental review of solar thermal power plant projects to be located on public lands. It is in the interest of the Parties to share in construction compliance, environmental compliance, design review, plan check, and construction, maintenance, operation and termination inspection (collectively “compliance review”) of solar thermal power plant projects on public lands, to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the state and Federal levels, to develop a more efficient compliance review process, and to meet state and Federal requirements.

II. PURPOSE

The purpose of this Amendment to the 2007 MOU is to ensure that jointly reviewed and approved solar thermal power plant projects, located on public lands, are constructed, operated, maintained, and terminated in conformity with the decisions issued by the BLM and the Commission.

III. ROLES AND RESPONSIBILITIES

Under California State law, the Commission has permitting authority for solar thermal power plants designed to generate over 50 megawatts in California under the California Public Resources Code 25500 et seq. If approved, the Commission’s Decision will contain Conditions of Certification for preconstruction, construction, and operation for the life of the project.

Under Federal law, the BLM has authority to grant rights-of-way over the public lands for generation, transmission, and distribution of electric energy systems under Title V of FLPMA, 43 U.S.C. sec. 1761 et seq. If approved, the BLM will issue a Record of Decision and an accompanying right-of-way grant containing terms and conditions to minimize damage and otherwise protect the environment, require compliance with applicable air and water quality standards, require compliance with state standards for public health and safety, environmental protection, and siting, construction, operation, and maintenance of rights-of-way if those state standards are more stringent than applicable Federal standards, and other requirements. The BLM will grant rights-of-way over the public lands in a manner that protects the natural resources associated with the public lands and adjacent lands, prevents unnecessary or undue degradation to public lands, promotes common use, and coordinates to the fullest extent possible with state government and others. The right-of-way grant will ensure the protection of public health and

safety, preclude unnecessary damage to the environment, and prevent the unnecessary or undue degradation of the public lands. The right-of-way holder (“Holder”) must comply with Title 43 of the Code of Federal Regulations (CFR) Part 2800, and by accepting the grant, is bound to the terms and conditions of the grant.

Under the terms of this Amendment to the 2007 MOU, the Commission will provide primary oversight for the Holder’s compliance with the California Building Standards Code (CBSC), and other applicable state laws, ordinances, regulations, and standards (LORS) to ensure health and safety of the public, and protection of the environment. The BLM will provide primary compliance oversight for the right-of-way terms and conditions that are required by the BLM, and that are separate and apart from those for which the primary oversight is being administered by the Commission.

Both the BLM and Energy Commission agree to communicate and cooperate in a manner in order to avoid duplication of efforts and to assist each other in effective implementation of compliance efforts.

Under the terms of this Amendment to the 2007 MOU, the Commission will provide the BLM with access to all relevant documents and records applicable to the Holder’s compliance with State Laws and standards for the construction, operation, maintenance and termination of approved solar thermal power plant projects, if appropriate. Should the Commission seek assistance from the BLM with enforcement of state requirements, requests for assistance will be directed to the BLM’s authorized officer.

Under the terms of this Amendment to the 2007 MOU, the BLM will provide the Commission with access to all relevant documents and records applicable to the Holder’s compliance with requirements of the right-of-way grant for the construction, operation, maintenance and termination of approved solar thermal power plant projects, if appropriate. Should the BLM seek assistance from the Commission with enforcement of federal requirements, requests for assistance will be directed to the Commission’s Certified Building Official.

Under the terms of this Amendment to the 2007 MOU, the respective staff of the BLM and the Commission, working cooperatively on compliance efforts, are encouraged to enter into local operating agreements. These local operating agreements will reflect the principles outlined in this Amendment and further describe the processes and protocols that will be established for communication and cooperation between the BLM and the Commission in conducting compliance review operations.

IV. IMPLEMENTATION AND AMENDMENT

This Amendment to the 2007 MOU becomes effective upon signature by the BLM California State Director and the California Energy Commission Executive Director, and may be subsequently amended or modified through the written agreement of both directors.

V. RESOLVING DISAGREEMENT

If there is disagreement between the Commission staff and the BLM staff regarding the provisions of this Amendment, representatives of each staff will meet to discuss the issue(s) in dispute and shall work in good faith towards resolution of the issue(s). If agreement is not reached within 21 days of this initial meeting, the signatories of this Amendment to the 2007 MOU, or delegate, shall confer to resolve the

disagreement. If resolution is not achieved, the BLM and the Commission may agree to disagree and to resolve the issue under respective principles of Federal or state law.

VI. TERMINATION

This Amendment to the 2007 MOU will remain in effect until satisfied or terminated, or until the 2007 MOU is satisfied or terminated. This Amendment to the 2007 MOU may be terminated in writing by either the BLM or the Commission by providing 30 days written notice of termination to the other.

VII. SIGNATURES AND EFFECTIVE DATE

The BLM and the Commission have executed, and this Amendment to the 2007 MOU becomes effective as of the date of the last signature shown below.

CALIFORNIA ENERGY COMMISSION

DATED: _____

Melissa Jones, Executive Director
California Energy Commission

BUREAU OF LAND MANAGEMENT

DATED: _____

James W. Abbott, Acting State Director
California Bureau of Land Management

Attachment K

Summary of California Energy Commission Conditions of Certification and Bureau of Land Management Monitoring

Summary of California Energy Commission Conditions of Certification and Bureau of Land Management Monitoring

The California Energy Commission's Decision Document for the Blythe Solar Power Project was issued in September 2010 (CEC-800-2010-009-CMF). A copy of these conditions are found in the Updated Plan of Development (Attachment 9) submitted on September 30, 2010. The controlling document for the CEC conditions is the Blythe Solar Power Project California Energy Commission's Decision Document as amended. Following is a summary of CEC conditions, as well as a description of the BLM-specific mitigation measures. Compliance with each component of monitoring is to be determined and supervised by the CEC unless otherwise noted.

Condition	Summary	CEC	BLM	Comment
BLM-PHS-1	To protect against UXO-related hazards, the potential presence of UXO should be investigated in geophysical surveys performed by a company with specific expertise in UXO identification, and remnants of munitions or bullets identified during development of the subject property should be removed and disposed of in accordance with applicable LORS (AECOM, 2009)		X	Component of monitoring to be managed by BLM
BLM-PHS-2	AML openings should be identified, flagged and avoided if they pose a physical safety hazard. The Applicant should coordinate with the BLM to identify any hazards with the openings on public land so that BLM may develop mitigation measures to avoid the sites or mitigate related hazards. Such mitigation measures shall be consistent with the BLM's Abandoned Mine Land Program Policy Handbook (H-3720-1) (BLM, 2007), as it may be amended from time to time, or with a comparable resource. The Applicant also shall coordinate with the owner of the site that appears to be on private land to mitigate any hazards associated with that opening.		X	Component of monitoring to be managed by BLM
BLM-REC-1	The Applicant shall engage residents of Blythe, recreation user groups, interested public, organizations, and agencies to identify specific recreation management prescriptions to provide alternative recreational opportunities and experiences on the lands outside the BSPP site boundary. This		X	Component of monitoring to be managed by BLM

Condition	Summary	CEC	BLM	Comment
	effort shall delineate what the BLM and its partners would do to provide any additional management, marketing, monitoring, and administrative actions to meet recreational benefit demands for this area			
BLM-REC-2	<p>The Applicant shall prepare and distribute interpretative materials including a construction schedule and safety information regarding trucks and other heavy equipment on local roads, to users of the Midland, Mule Mountains and La Posa LTVA's, Wiley Wells and Coon Hollow Campgrounds, and BLM kiosks stating the development of the solar facilities at the BSPP site and the temporary or permanent closure of approximately 6,000 acres of public land to recreational use. The BLM authorized officer shall approve the draft materials prior to distribution.</p> <p>To clarify the method and means that the Applicant shall use to communicate with the public and affected jurisdictions about the Blythe Solar Power Project (see, e.g., BLM-REC-2, BLM-REC-5 and OHV-1), the Applicant shall prepare a one-page fact sheet and submit it to the BLM's Palm Springs South Coast Field Office for appropriate distribution.</p>		X	Component of monitoring to be managed by BLM
BLM-REC-3	The Applicant shall encourage project workers to utilize local housing or private RV parks in Blythe and/or nearby communities.		X	Component of monitoring to be managed by BLM
BLM-REC-4	No less than 15 days prior to construction, the Applicant shall coordinate construction activities and the BSPP construction schedule with the authorized officer for the recreation areas impacted. The Applicant shall schedule construction activities to avoid heavy recreational use periods in coordination with and at the discretion of the authorized officer. The Applicant shall locate construction equipment to avoid temporary preclusion of recreation areas in accordance with the recommendation of the authorized officer. The Applicant shall document its coordination efforts with the		X	Component of monitoring to be managed by BLM

Condition	Summary	CEC	BLM	Comment
	authorized officer and provide this documentation to the Lead Agencies and affected jurisdictions prior to construction.			
BLM-REC-5	<p>The Applicant shall coordinate with the authorized officer for the applicable federal, State, or local parks and recreational facilities at least 15 days before construction in order to identify alternative recreation facilities that may be used by the public during construction. The Applicant shall post a public notice at recreation facilities that are to be closed or where access would be limited during project construction. The Applicant shall document its coordination efforts with the parks and recreation departments and provide this documentation to the Lead Agencies and all affected jurisdictions prior to construction.</p> <p>To clarify the method and means that the Applicant shall use to communicate with the public and affected jurisdictions about the Blythe Solar Power Project (see, e.g., BLM-REC-2, BLM-REC-5 and OHV-1), the Applicant shall prepare a one-page fact sheet and submit it to the BLM's Palm Springs South Coast Field Office for appropriate distribution.</p>		X	Component of monitoring to be managed by BLM
BLM-OHV-1	<p>No less than 15 days prior to construction, the Applicant shall coordinate with the authorized officer administering any NECO Plan-designated open routes to establish temporary closure of the routes to avoid construction area hazards, if the route is deemed unsafe to use during construction. The Applicant shall post a public notice of the temporary route closure and penalties for any off route OHV activities. The Applicant shall document its coordination efforts with the authorized officer and submit this documentation to the BLM and other agencies affected prior to construction.</p> <p>To clarify the method and means that the Applicant shall use to communicate with the public and affected jurisdictions about the Blythe Solar Power Project (see, e.g., BLM-REC-2,</p>		X	Component of monitoring to be managed by BLM

Condition	Summary	CEC	BLM	Comment
	BLM-REC-5 and OHV-1), the Applicant shall prepare a one-page fact sheet and submit it to the BLM's Palm Springs South Coast Field Office for appropriate distribution.			
BLM-OHV-2	The BLM may require the Applicant, in consultation with the BLM, to reestablish north/south OHV connectivity to the west side of the Big Maria Wilderness Area and to the northeast side of the Palen/McCoy Wilderness Area.		X	Component of monitoring to be managed by BLM
BLM-BIO-7a	The Applicant shall ensure that monitoring accomplished under BIO-7 and other mitigating measures use available climatological data when analyzing project effects or resource trends.		X	Component of monitoring to be managed by BLM
BLM-VIS-1	<p>The project owner shall paint power blocks structures and other vertical construction shadow gray as shown on the BLM Color Chart. To the extent feasible, the backs of solar troughs shall also be color treated to minimize color contrasts.</p> <p>The BLM did not intend BLM-VIS-1 to be imposed where views of the backs of solar troughs could not be visible outside the facility due to fences and other intervening structures or obstructions.</p>		X	Component of monitoring to be managed by BLM
BLM-Soil & WATER-18	The proposed evaporation ponds shall be sized so as to maintain no less than one foot of freeboard during storm conditions. Specifically, the ponds shall be sized to accommodate operational discharges plus a 25-year storm event, with no less than one foot of freeboard.		X	Component of monitoring to be managed by BLM
AQ-01	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-02	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-03	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-04	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-05	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-06	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-07	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC

Condition	Summary	CEC	BLM	Comment
AQ-08	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-09	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-10	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-11	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-12	Auxiliary Boiler Operations	X		Component of monitoring to be managed by CEC
AQ-13	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-14	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-15	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-16	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-17	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-18	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-19	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-20	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-22	Ullage System Operation	X		Component of monitoring to be managed by CEC
AQ-23	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-24	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-25	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-26	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-27	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-28	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-29	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-30	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-31	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-32	Carbon Absorption System Operation	X		Component of monitoring to be managed by CEC
AQ-33	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC

Condition	Summary	CEC	BLM	Comment
AQ-34	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC
AQ-35	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC
AQ-36	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC
AQ-37	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC
AQ-38	Cooling Tower Conditions	X		Component of monitoring to be managed by CEC
AQ-39	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-40	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-41	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-42	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-43	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-44	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-45	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-46	Emergency Generator Conditions	X		Component of monitoring to be managed by CEC
AQ-47	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-48	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-49	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-50	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-51	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-52	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-53	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-54	Emergency Fire Suppression Water Pump Engine Conditions	X		Component of monitoring to be managed by CEC
AQ-55	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-56	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-57	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-58	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC

Condition	Summary	CEC	BLM	Comment
AQ-59	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-60	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-61	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-62	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-63	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-64	Non-Retail Gasoline Dispensing Facility Conditions	X		Component of monitoring to be managed by CEC
AQ-SC01	AQCMM	X		Component of monitoring to be managed by CEC
AQ-SC02	AQCMP	X		Component of monitoring to be managed by CEC
AQ-SC03	Construction Fugitive Dust Control	X		Component of monitoring to be managed by CEC
AQ-SC04	Dust Plume Response Requirement	X		Component of monitoring to be managed by CEC
AQ-SC05	Diesel Fueled Engine Control	X		Component of monitoring to be managed by CEC
AQ-SC06	Vehicle Emissions	X		Component of monitoring to be managed by CEC
AQ-SC07	Operations Dust Control Plan	X		Component of monitoring to be managed by CEC
AQ-SC-08	Provide Copies of ATC and PTO	X		Component of monitoring to be managed by CEC
BIO-01	Designated Biologist Selection and Qualifications	X		Component of monitoring to be managed by CEC
BIO-02	Designated Biologist Duties	X		Component of monitoring to be managed by CEC
BIO-03	Biological Monitor Selection and Qualifications	X		Component of monitoring to be managed by CEC
BIO-04	Biological Monitor Duties	X		Component of monitoring to be managed by CEC
BIO-05	Designated Biologist and Biological Monitor Authority	X		Component of monitoring to be managed by CEC
BIO-06	Worker Environmental Awareness Program	X		Component of monitoring to be managed by CEC
BIO-07	Biological Resources Mitigation Implementation and Monitoring Plan	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-08	Impact Avoidance AND MINIMIZATION MEASURES	X		Component of monitoring to be managed by CEC
BIO-09	DESERT TORTOISE CLEARANCE SURVEYS AND FENCING	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-10	DESERT TORTOISE RELOCATION/TRANSLOCATION PLAN	X	X	Component of monitoring to be managed by CEC; BLM review

Condition	Summary	CEC	BLM	Comment
BIO-11	Desert Tortoise Compliance Verification	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-12	DESERT TORTOISE COMPENSATORY MITIGATION	X	X	Component of monitoring to be managed by CEC; BLM Review and Approval
BIO-13	RAVEN MANAGEMENT PLAN	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-14	WEED MANAGEMENT PLAN	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-15	Avian protection plan	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-16	PRE-CONSTRUCTION NEST SURVEYS	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-17	AMERICAN BADGER AND DESERT KIT FOX IMPACT AVOIDANCE AND MINIMIZATION MEASURES	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-18	Burrowing Owl Impact Avoidance, Minimization, AND COMPENSATION Measures	X		Component of monitoring to be managed by CEC
BIO-19	SPECIAL-STATUS PLANT impact avoidance, minimization and compensation	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-20	Sand dune/fringe-toed lizard mitigation	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-21	MITIGATION FOR IMPACTS TO BIGHORN SHEEP	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-22	MITIGATION FOR IMPACTS TO STATE WATERS	X	X	Component of monitoring to be managed by CEC; BLM Review
BIO-23	DECOMMISSIONING and reclamation PLAN	X		Component of monitoring to be managed by CEC
BIO-24	GOLDEN EAGLE INVENTORY AND MONITORING	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-25	Evaporation Pond Netting and Monitoring	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-26	COUCH'S SPADEFOOT TOAD IMPACT AVOIDANCE AND MINIMIZATION MEASURES	X	X	Component of monitoring to be managed by CEC; BLM review

Condition	Summary	CEC	BLM	Comment
BIO-27	IN-LIEU FEE MITIGATION OPTION	X	X	Component of monitoring to be managed by CEC; BLM review
BIO-28	Project construction phasing plan	X		Component of monitoring to be managed by CEC
CIVIL-01	Submission to CBO	X		Component of monitoring to be managed by CEC
CIVIL-02	Resident Engineer	X		Component of monitoring to be managed by CEC
CIVIL-03	Perform Inspections	X		Component of monitoring to be managed by CEC
CIVIL-04	CBO approval of grading plans	X		Component of monitoring to be managed by CEC
COM-01	CPM Site Access	X		Component of monitoring to be managed by CEC
COM-02	Maintain project files	X		Component of monitoring to be managed by CEC
COM-03	Submittal Protocol	X		Component of monitoring to be managed by CEC
COM-04	Precon Matrix	X		Component of monitoring to be managed by CEC
COM-05	Construction matrix	X		Component of monitoring to be managed by CEC
COM-06	Compliance Report	X		Component of monitoring to be managed by CEC
COM-07	Compliance Report	X		Component of monitoring to be managed by CEC
COM-08	Confidentiality	X		Component of monitoring to be managed by CEC
COM-09	Reporting of Complaints	X		Component of monitoring to be managed by CEC
COM-10	Planned Facility Closure	X		Component of monitoring to be managed by CEC
COM-11	Unplanned Temporary Facility Closure	X		Component of monitoring to be managed by CEC
COM-12	On-Site Contingency Plan	X		Component of monitoring to be managed by CEC
COM-13	Post Certification Changes	X		Component of monitoring to be managed by CEC
CUL-01	PREHISTORIC TRAILS NETWORK CULTURAL LANDSCAPE (PTNCL) DOCUMENTATION AND POSSIBLE NRHP NOMINATION	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-02	DESERT TRAINING CENTER CALIFORNIA-ARIZONA MANEUVER AREA CULTURAL LANDSCAPE (DTCCL) DOCUMENTATION AND POSSIBLE NRHP NOMINATION	X	X	Component of monitoring to be managed by CEC; BLM Review

Condition	Summary	CEC	BLM	Comment
CUL-04	PROJECT DOCUMENTS FOR CULTURAL RESOURCES PERSONNEL	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-05	CULTURAL RESOURCES MONITORING AND MITIGATION PLAN	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-06	Prehistoric Quarries Archaeological District (PQAD) Data Recovery and District Nomination	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-07	DATA RECOVERY FOR SMALL PREHISTORIC SITES (LITHIC SCATTERS, CAIRNS, AND POT DROPS)	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-08	DATA RECOVERY ON HISTORIC-PERIOD SITES WITH FEATURES	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-09	DATA RECOVERY ON HISTORIC-PERIOD SITES WITH STRUCTURES	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-10	DATA RECOVERY ON HISTORIC-PERIOD DUMP SITES	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-11	DATA RECOVERY ON HISTORIC-PERIOD REFUSE SITES	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-12	DATA RECOVERY ON HISTORIC-PERIOD ROADS	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-13	ARCHIVAL RESEARCH ON BLYTHE ARMY AIR BASE RESERVOIR PIPELINES	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-14	ARCHIVAL RESEARCH ON RADIO COMMUNICATIONS FACILITY	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-15	WORKER ENVIRONMENTAL AWARENESS PROGRAM (WEAP)	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-16	CONSTRUCTION MONITORING PROGRAM	X	X	Component of monitoring to be managed by CEC; BLM review
CUL-17	AUTHORITY TO HALT CONSTRUCTION; TREATMENT OF DISCOVERIES	X	X	Component of monitoring to be managed by CEC; BLM review

Condition	Summary	CEC	BLM	Comment
CUL-18	CULTURAL RESOURCES REPORT (CRR)	X	X	Component of monitoring to be managed by CEC; BLM Review
CUL-19	COMPLIANCE WITH BLM PROGRAMMATIC AGREEMENT	X	X	Component of monitoring to be managed by CEC; BLM review
ELEC-01	Electrical Construction	X		Component of monitoring to be managed by CEC
GEN-01	Comply with Title 24	X		Component of monitoring to be managed by CEC
GEN-02	Submit Schedule	X		Component of monitoring to be managed by CEC
GEN-03	Design Review Fees	X		Component of monitoring to be managed by CEC
GEN-04	Assign a Registered Architect	X		Component of monitoring to be managed by CEC
GEN-05	Assign a registered Engineer, Geotech, and Geologist	X		Component of monitoring to be managed by CEC
GEN-06	Assign Inspectors	X		Component of monitoring to be managed by CEC
GEN-07	Design Review	X		Component of monitoring to be managed by CEC
GEN-08	CBO Final Approval	X		Component of monitoring to be managed by CEC
GEO-01	Soils Engineer	X		Component of monitoring to be managed by CEC
HAZ-01	Hazardous Materials	X	X	Component of monitoring to be managed by CEC; BLM review
HAZ-02	Hazardous Materials Business Plan	X		Component of monitoring to be managed by CEC
HAZ-03	Safety Management Plan	X	X	Component of monitoring to be managed by CEC; BLM review
HAZ-04	Isolation Valves	X		Component of monitoring to be managed by CEC
HAZ-05	Security Plan	X		Component of monitoring to be managed by CEC
HAZ-06	Security Plan	X		Component of monitoring to be managed by CEC
MECH-01	Major Piping and Plumbing Systems	X		Component of monitoring to be managed by CEC
MECH-02	Pressure Vessels	X		Component of monitoring to be managed by CEC
MECH-03	Design Review	X		Component of monitoring to be managed by CEC
NOISE-01	PUBLIC NOTIFICATION PROCESS	X		Component of monitoring to be managed by CEC
NOISE-02	NOISE COMPLAINT PROCESS	X		Component of monitoring to be managed by CEC

Condition	Summary	CEC	BLM	Comment
NOISE-03	EMPLOYEE NOISE CONTROL PROGRAM	X		Component of monitoring to be managed by CEC
NOISE-04	NOISE RESTRICTIONS	X		Component of monitoring to be managed by CEC
NOISE-05	OCCUPATIONAL NOISE SURVEY	X		Component of monitoring to be managed by CEC
NOISE-06	CONSTRUCTION RESTRICTIONS	X		Component of monitoring to be managed by CEC
NOISE-07	STEAM BLOWS	X		Component of monitoring to be managed by CEC
PAL-01	Paleontological Resource Specialist Qualifications	X		Component of monitoring to be managed by CEC
PAL-02	Provide Drawings	X		Component of monitoring to be managed by CEC
PAL-03	PRMMP	X		Component of monitoring to be managed by CEC
PAL-04	Training	X		Component of monitoring to be managed by CEC
PAL-05	PRS and PRM(s) monitors	X		Component of monitoring to be managed by CEC
PAL-06	PRMMP Components	X		Component of monitoring to be managed by CEC
PAL-07	PRR Preparation by PRS	X		Component of monitoring to be managed by CEC
PH-01	Cooling Water Management Plan	X		Component of monitoring to be managed by CEC
S&W-01	Drainage Erosion and Sedimentation Control Plan	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-02	Project Pumping	X		Component of monitoring to be managed by CEC
S&W-03	Project Groundwater Wells, Pre-Well Installation	X	X	Component of monitoring to be managed by CEC; BLM Review
S&W-04	Construction and Operation Water Use	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-05	GROUNDWATER LEVEL MONITORING, MITIGATION, AND REPORTING PLAN	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-06	Reimbursement	X		Component of monitoring to be managed by CEC
S&W-07	WASTE DISCHARGE REQUIREMENTS	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-08	Septic System and Leach Field Requirements	X		Component of monitoring to be managed by CEC
S&W-09	GROUNDWATER PRODUCTION REPORTING	X	X	Component of monitoring to be managed by CEC; BLM review

Condition	Summary	CEC	BLM	Comment
S&W-10	CLOSURE AND DECOMMISSIONING PLAN	X	X	Component of monitoring to be managed by CEC; BLM Review
S&W-11	Revised Project Drainage Report AND PLANS	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-12	Detailed FLO-2D Analysis	X		Component of monitoring to be managed by CEC
S&W-13	Drainage Channel Design	X		Component of monitoring to be managed by CEC
S&W-14	Channel Erosion Protection	X		Component of monitoring to be managed by CEC
S&W-15	Channel Maintenance Program	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-16	ESTIMATION OF SURFACE WATER IMPACTS	X	X	Component of monitoring to be managed by CEC; BLM review
S&W-18	Non-TRANSIENT, NON-COMMUNITY WATER SYSTEM	X	X	Component of monitoring to be managed by CEC; BLM review
STRUC-01	Design Review	X		Component of monitoring to be managed by CEC
STRUC-02	Statement of Design Review	X		Component of monitoring to be managed by CEC
STRUC-03	Design Changes	X		Component of monitoring to be managed by CEC
STRUC-04	Tanks and Vessels	X		Component of monitoring to be managed by CEC
TLSN-01	Transmission Line Construction	X		Component of monitoring to be managed by CEC
TLSN-02	Complaints	X		Component of monitoring to be managed by CEC
TLSN-03	Electric and Magnetic Fields	X		Component of monitoring to be managed by CEC
TLSN-04	Rights of Way	X		Component of monitoring to be managed by CEC
TLSN-05	Metallic Objects	X		Component of monitoring to be managed by CEC
TRANS-01	Parking and Staging	X		Component of monitoring to be managed by CEC
TRANS-02	Traffic Control Plan	X	X	Component of monitoring to be managed by CEC; BLM review
TRANS-03	Limitations on Vehicle Size and Weight	X		Component of monitoring to be managed by CEC
TRANS-04	Encroachment into Public Rights of Way	X		Component of monitoring to be managed by CEC
TRANS-05	Restoration of All Public Roads, Easements, and Rights-of-Way	X	X	Component of monitoring to be managed by CEC; BLM review

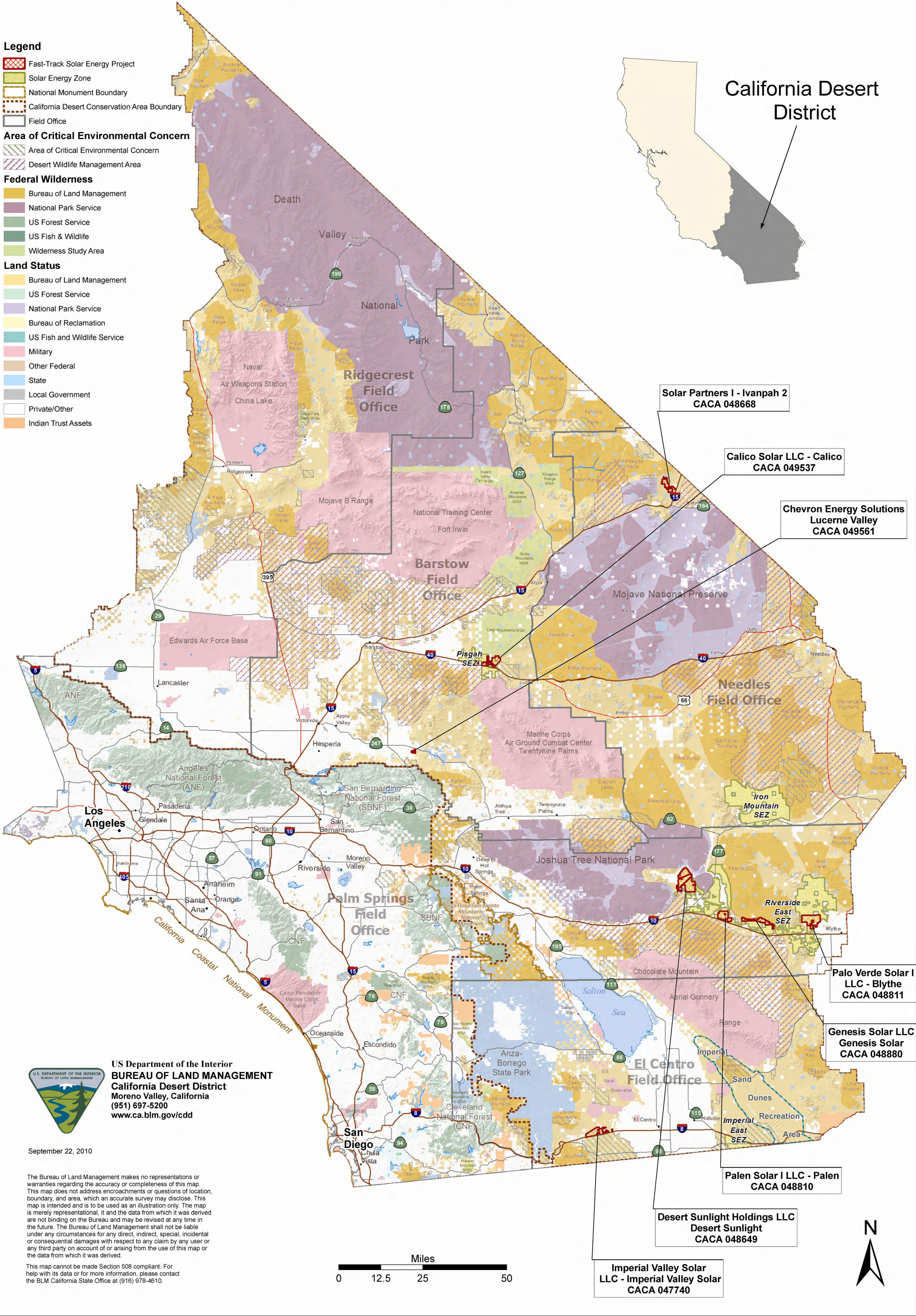
Condition	Summary	CEC	BLM	Comment
TRANS-06	Securing Permits/Licenses to Transport Hazardous Materials	X		Component of monitoring to be managed by CEC
TRANS-07	FAA	X		Component of monitoring to be managed by CEC
TRANS-08	Avigation Easement	X		Component of monitoring to be managed by CEC
TRANS-09	Stowage of Mirrors	X		Component of monitoring to be managed by CEC
TRANS-10	Complaints	X		Component of monitoring to be managed by CEC
TRANS-11	Runway Approaches	X		Component of monitoring to be managed by CEC
TSE-01	Compliance Plan Submittal	X		Component of monitoring to be managed by CEC
TSE-02	Assign Staff	X		Component of monitoring to be managed by CEC
TSE-03	Design	X		Component of monitoring to be managed by CEC
TSE-04	Switchyard	X		Component of monitoring to be managed by CEC
TSE-05	LORS	X		Component of monitoring to be managed by CEC
TSE-06	CAISO	X		Component of monitoring to be managed by CEC
TSE-07	Inspection	X		Component of monitoring to be managed by CEC
VIS-01	Surface Treatment of Project Structures and Buildings	X		Component of monitoring to be managed by CEC
VIS-02	Revegetation of Disturbed Soil Areas	X		Component of monitoring to be managed by CEC
VIS-03	Temporary and Permanent Exterior Lighting	X		Component of monitoring to be managed by CEC
VIS-04	Project Design	X		Component of monitoring to be managed by CEC
WASTE-01	UXO Identification	X	X	Component of monitoring to be managed by CEC; BLM review
WASTE-02	Staff Qualifications	X		Component of monitoring to be managed by CEC
WASTE-03	Potentially Contaminated Soil	X	X	Component of monitoring to be managed by CEC; BLM review
WASTE-04	Construction Waste Management Plan	X		Component of monitoring to be managed by CEC
WASTE-05	Hazardous Waste Generator ID	X		Component of monitoring to be managed by CEC
WASTE-06	Waste Management	X	X	Component of monitoring to be managed by CEC; BLM review
WASTE-07	Operation Waste management Plan	X	X	Component of monitoring to be managed by CEC;

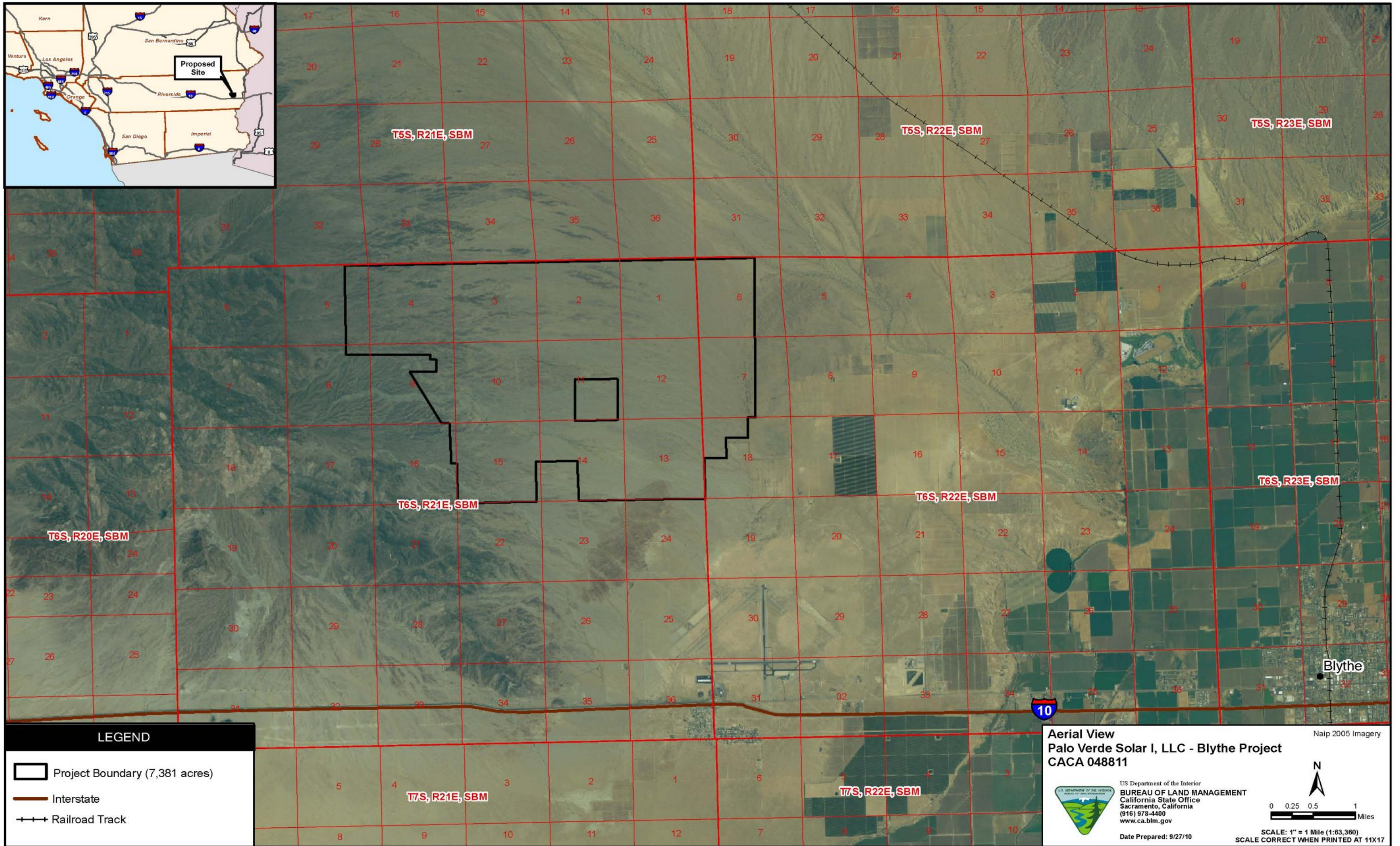
Condition	Summary	CEC	BLM	Comment
				BLM review
WASTE-08	HTF	X		Component of monitoring to be managed by CEC
WASTE-09	Accidental Spills	X	X	Component of monitoring to be managed by CEC; BLM review
WASTE-10	Landfill	X		Component of monitoring to be managed by CEC
WORKER SAFETY-01	Project Construction Safety and Health Program	X		Component of monitoring to be managed by CEC
WORKER SAFETY-02	Project Operations and Maintenance Safety and Health Program	X		Component of monitoring to be managed by CEC
WORKER SAFETY-03	Construction Safety Supervisor	X		Component of monitoring to be managed by CEC
WORKER SAFETY-04	Safety Monitor	X		Component of monitoring to be managed by CEC
WORKER SAFETY-05	Automatic External Defibrillator (AED)	X		Component of monitoring to be managed by CEC
WORKER SAFETY-06	Site Access	X		Component of monitoring to be managed by CEC
WORKER SAFETY-07	Riverside County Fire Department	X		Component of monitoring to be managed by CEC
WORKER SAFETY-08	Dust Control Plan	X		Component of monitoring to be managed by CEC
WORKER SAFETY-09	Training Exercise with Riverside County Fire Department	X		Component of monitoring to be managed by CEC

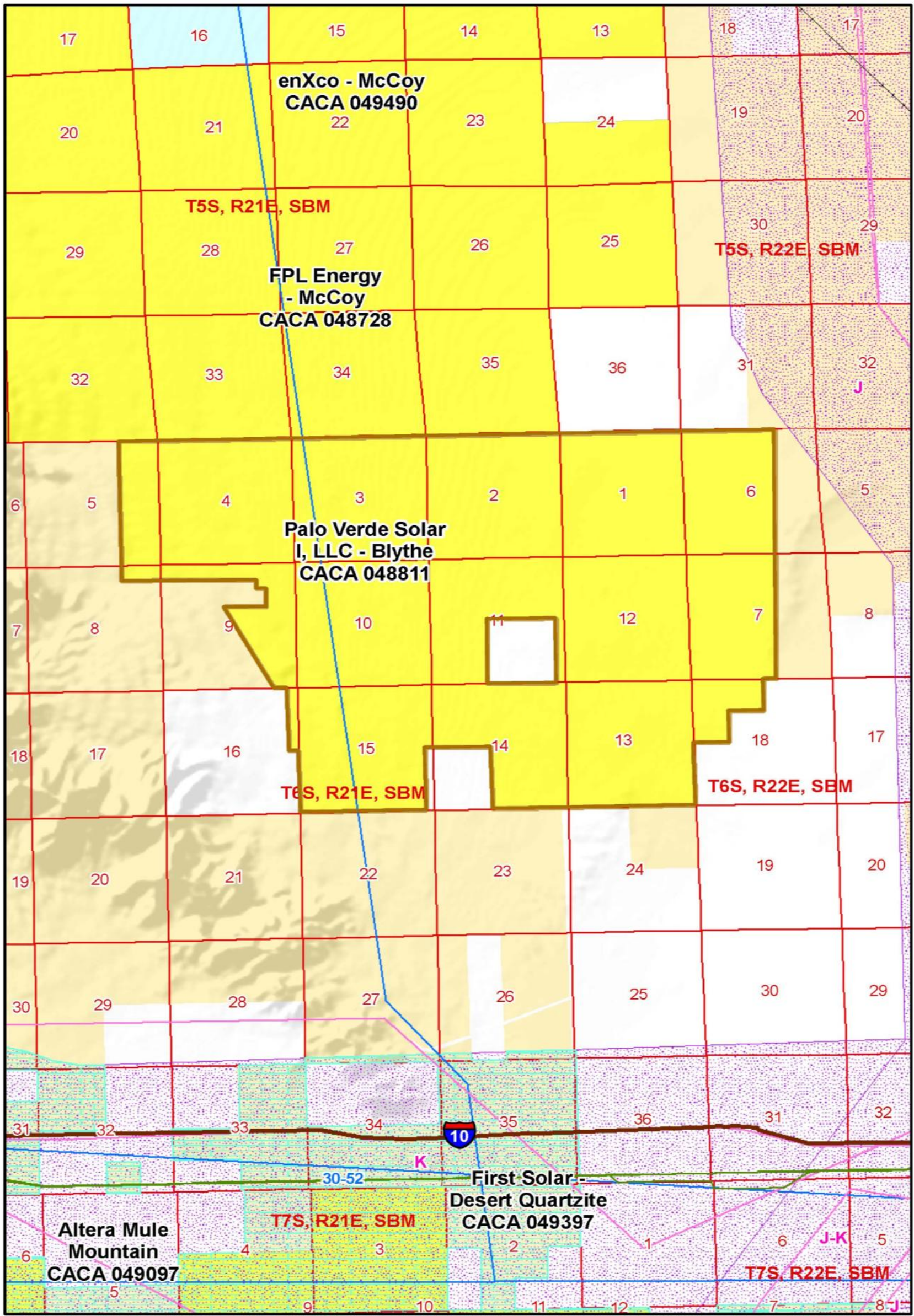
California Desert BLM District Offices

Fast-Track Solar Energy Projects

Projects as of September 22, 2010







Solar Energy Project
Palo Verde Solar I, LLC - Blythe / CACA 048811



Palm Springs Field Office

Land Status View

US Department of the Interior
BUREAU OF LAND MANAGEMENT
California State Office
Sacramento, California
(916) 978-4400
www.ca.blm.gov
Date Prepared: 9/27/10

- Legend**
- Interstate
 - Railroad Track
 - Natural Gas
 - Utilities
 - Electrical Cable Line
 - CDD Designated Utility Corridor
 - Section 368 Utility Corridor

- Renewable Energy ROW**
- Commodity**
- Solar Energy Project CACA 048811
 - Other Solar Energy Projects

- Land Status**
- Bureau of Land Management
 - Private/Other
 - State

October 20, 2010

James Abbott
Acting State Director
Bureau of Land Management
2800 Cottage Way
Sacramento, CA

Dear Mr. Abbott:

Solar Millennium, LLC, on behalf of Palo Verde Solar I, LLC, (PVSI) informs you that we have reached agreements with Natural Resources Defense Council ("NRDC"), Defenders of Wildlife ("DOW"), and The Wilderness Society as well as with the Sierra Club to resolve their protests to the CDCA land use plan amendments related to the Blythe Solar Power Project (BSPP). PVSI will agree to certain specified conditions on the development of BSPP and the environmental organizations will, among other things, withdraw their protests. The conditions to which PVSI agrees will be incorporated into the POD. Those conditions are attached hereto as Attachment A.

Attachment B will be incorporated into the ROD.

Sincerely,



Alice L. Harron
Senior Director, Development

CC: Holly Roberts
Bureau of Land Management
Palm Springs - South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262-8001

Attachment A

Language to be included in Plan of Development for Blythe Solar Power Project

2.1 Desert Tortoise. In accordance with BIO-12 and BIO-28 of the Final CEC Decision, Palo Verde shall acquire and permanently protect six thousand nine hundred fifty-eight (6,958) acres of desert tortoise habitat as compensation for the Blythe Solar Project's impacts to existing desert tortoise habitat within the project area. Such permanent protection of tortoise lands shall be accomplished on the terms and conditions set forth in BIO-12 and BIO-28, which are fully incorporated herein by reference.

2.2 Desert Bighorn Sheep.

A. Palo Verde shall forego, and hereby waives, the option to create or fund the creation of a new water source for bighorn sheep in the McCoy Mountains or other mountain ranges in the vicinity of the Blythe Solar Project as such option is described in BIO-21 of the Final CEC Decision.

B. Palo Verde shall acquire and permanently protect nine hundred twenty-nine (929) acres of Spring foraging habitat for desert bighorn sheep as compensation for what the CEC determined were the Blythe Solar Project's impacts to bighorn sheep Spring foraging habitat within the project area. Such permanent protection of the bighorn sheep Spring foraging habitat shall be accomplished on the terms and conditions set forth in BIO-21 and BIO-28 of the Final CEC Decision which are fully incorporated herein by reference. In addition to the terms and conditions in BIO-21, Palo Verde shall use reasonable efforts to incorporate the following selection criteria to ensure that compensatory lands contain high quality bighorn sheep habitat:

(1) the acquisition of compensatory lands shall be prioritized to acquire within that portion of the Southern Mojave Metapopulation area that is bounded by Interstate 10 and State Highways 62 and 177;

(2) Compensatory lands shall be prioritized to be contiguous with lands already protected for the conservation of wildlife or identified for landscape-scale conservation.

2.3 Desert Wash Microphyll Woodlands. In accordance with BIO-22 and BIO-28 of the Final CEC Decision, Palo Verde shall acquire and permanently protect six hundred thirty-nine (639) acres of desert wash microphyll woodlands as compensation for the acreage of desert wash microphyll woodlands impacted by the Blythe Solar Project at a ratio of 3:1. Such permanent protection of desert wash microphyll woodlands shall be accomplished on the terms and conditions set forth in BIO-22 of the Final CEC Decision, which are fully incorporated herein by reference. In addition to the terms and conditions in BIO-22 of the Final CEC

Decision, Palo Verde shall take reasonable efforts to incorporate the following criteria in its selection of compensatory desert wash microphyll woodland habitat:

(1) Lands acquired and protected for conservation of desert wash microphyll woodlands shall be located within the NECO planning area. More specifically, first priority acquisitions shall be located within that portion of the NECO planning area bound by Interstate 10, and State Highways 62 and 177;

(2) Lands to be acquired and protected for conservation of desert wash microphyll woodlands shall not be located on land: (a) that already has an application with the Bureau of Land Management for a solar thermal energy facility, unless such land can be withdrawn from solar impactful use; or (b) that (1) is downstream from any lands identified in any applications with the BLM or the CEC for renewable energy facilities that were included in the cumulative analysis for the Final Environmental Impact Statement and (2) could reasonably foreseeably be adversely affected by upstream development of those renewable energy facilities as of the Effective Date.

(3) Compensatory microphyll woodlands shall contain approximately the same species composition as the woodland habitat impacted by the Blythe Solar Project;

(4) Absolute percent cover in the compensatory microphyll woodlands shall be equal to or greater than the absolute percent cover of woodland habitat impact by the Blythe Solar Project;

(5) Any measurement of the acreage of microphyll woodland habitat shall be determined based on the actual acreage from edge to edge of the arboreal cover;

(6) In accordance with the Holland (1986) definition of a Desert Dry Wash Woodland community, the overall height of woodland trees present in the compensatory woodlands shall be generally comparable to the overall height of the woodlands impacted by the Blythe Solar Project; and

(7) Compensatory microphyll woodlands shall be prioritized to be adjacent or contiguous with areas already protected for wildlife conservation or areas identified for landscape-level conservation..

2.4. _____ Compensatory _____ acquisition and permanent protection of (_____ 2.1, _____ shall be accomplished through (a) fee or other acquisition (including conservation easements) by Palo Verde or an entity on behalf of Palo Verde of target lands ("Ownership Interests") and (b) transfer of such Ownership Interests to the United States, the State of California, or an appropriate governmental or non-governmental organization for the permanent management and conservation of wildlife and natural resources. Conservation easements will satisfy Palo Verde's obligations to acquire

and permanently protect compensatory lands provided that the easements: (i) are recorded in the appropriate office for recording real property documents in the county where the easement lands are located, (ii) run with the land in perpetuity, (iii) expressly authorize third party monitoring and enforcement of the terms of the easement, (iv) expressly authorize specific performance as an available remedy for violation of the easement terms, and (v) specify financial penalties to be incurred by the violator resulting from violations of the easement terms, which penalties must be used to mitigate the impacts of the Blythe Solar Project.

2.5. Conservation Covenants. Palo Verde shall require and ensure that each parcel of the compensatory lands acquired pursuant to this Agreement is encumbered by valid and enforceable restrictive covenants as approved by the resource agencies (defined to mean the California Department of Fish and Game and/or the U.S. Fish and Wildlife Service) that require that the lands shall be managed and maintained in their natural state for the conservation of wildlife and natural resources in perpetuity, free from development, agriculture, off-highway vehicle use or other uses not compatible with the mitigation goals. Palo Verde shall provide funding for property enhancement and for conservation management in perpetuity regardless of whether the land is transferred to the United States or the State of California or any other organization to manage the conservation lands unless such transferee expressly provides such funding. Palo Verde shall bear the cost, if any, of preparing, executing and recording the conservation covenants contemplated in this section.

2.6. Conservation Enhancements. Palo Verde shall send the sum of One Million and 00/100 Dollars (\$1,000,000) dollars to the National Fish and Wildlife Foundation for deposit in the Renewable Energy Action Team Mitigation Account, which was established pursuant to the Memorandum of Agreement between the Renewable Energy Action Team Agencies and the National Fish and Wildlife Foundation, dated April 19, 2010, to be used exclusively by the BLM for the implementation of the following conservation enhancements in the NECO Plan area and, to the extent appropriate, in the vicinity of Blythe Solar Project: (i) the installation of fencing for desert tortoise, (ii) the installation of wildlife underpasses under lawfully existing public or private roads, and/or (iii) the restoration of unlawful off-road vehicle routes. Palo Verde shall include with the One Million (\$1,000,000) dollars a deposit document describing in detail the activities, as set forth in this section to be funded. The Sierra Club shall be given an opportunity to review the deposit document prior to Palo Verde sending the funds and deposit document to the National Fish and Wildlife Foundation. Palo Verde shall provide the document for review no less than 7 days prior to sending the document and shall consider any changes recommended by the Sierra Club. Payment of \$500,000 shall be upon Financial Close for Units 1 and 2 of the Project. The remaining payment of \$500,000 shall be prior to ground disturbance for Unit 3 of the Project.

2.7. Plan of Development; Record of Decision. Palo Verde agrees that it shall incorporate the conditions set forth in Section 2 into a revised plan of development for the

Blythe Solar Project, which will be submitted to the BLM for inclusion into its Record of Decision regarding the Blythe Solar Project and attached to its Record of Decision as an exhibit. The Parties agree and acknowledge that BLM shall incorporate the conditions set forth in **Section 2** in its Record of Decision regarding the Proposed Amendment and the Blythe Solar Project and that the BLM shall include the revised Plan of Development as an exhibit to the Record of Decision on the Blythe Solar Project.

2.8. Water. Palo Verde agrees that it will not assert any claim to or interest in any water right, provided, however, that Palo Verde may use groundwater at the Blythe Solar Project site consistent with the terms and conditions of Palo Verde's ROW grant.

2.9 In Lieu Fee Program. Nothing in this Agreement shall prohibit the use of the mitigation option identified in BIO-27 of the Final CEC Decision to satisfy some or all of Palo Verde's habitat compensation obligations. Provided, however, that Palo Verde shall enter into an agreement with the California Department of Fish and Game which conditions the expenditure of funds for this mitigation option in accordance with all of the terms and conditions of Section 2 of this Agreement, pursuant to the terms set forth in the letter of October 19, 2010 from the Department of Fish and Game to Solar Millennium regarding this subject, which is attached hereto as Exhibit B.

These conditions are subject to limitations agreed upon by the parties.

Attachment B

Form of Language to be included in the BLM Record of Decision for Blythe Solar Power Project

The FEIS was available for a 30-day public review and protest period. The 30-day public comment and protest period closed on _____. The comments that were submitted on the FEIS and the Bureau's responses thereto are included in Appendix _____. The protests have been resolved by the Director or, as noted below, have been withdrawn by the protesting party. At the request of various interested organizations, the BLM met, in accordance with its policy (BLM Land Use Planning Handbook, Appendix E, p.6 (2005)) in an effort to resolve the protest issues raised by these groups.

As a result of these meetings, the organizations and the project applicant agreed to certain project conditions which were reduced to writing and presented to the BLM for inclusion in the BLM Preferred Alternative (Appendix _____). These conditions require (i) the acquisition and permanent protection of habitat for desert tortoise and desert bighorn sheep as compensation for habitat impacted by the project; (ii) the acquisition and permanent protection of desert wash microphyll woodlands as compensation for woodlands impacted by the project; (iii) permanent conservation covenants on acquired lands; and (iv) the creation of a \$1,000,000 fund for the implementation of specified conservation enhancements. Conditions (i), (ii) and (iii) may be satisfied by acquiring lands through fee title, permanent conservation easements and/or in-lieu fee option. These conditions are subject to limitations agreed upon by the parties.

According to the agreement between and among the project applicant and the organizations, these and other agreed-upon terms have been incorporated into a modified Plan of Development for the project. The BLM has analyzed these terms and has determined that they do not require BLM to supplement the FEIS prior to issuance of the ROD (Appendix [D1] _____).

The BLM has determined that the terms fall within the alternatives analyzed in FEIS, has accepted these agreed upon terms as part of the amended plan of development, and has incorporated into and will administer these terms as part of the right-of-way grant in accordance with 43 CFR 2805.12(i)(5), 2807.16, and 2807.17. The agreed upon conditions are not subject to amendment without the agreement of the applicant and the organizations and only if approved by the BLM in accordance with 43 CFR 2807.20. The organizations have withdrawn their protests.

**Natural Resources Defense Council
The Wilderness Society**

October 20, 2010

James Abbott, Acting State Director
Bureau of Land Management
2800 Cottage Way
Sacramento, CA

Via email

Dear Director Abbott:

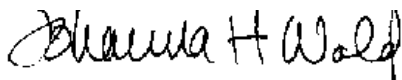
The Wilderness Society and Natural Resources Defense Council have today signed an agreement with Palo Verde Solar, LLC with regard to their proposed Blythe Solar Project. As you know, the company has filed a right of way application with the Bureau of Land Management (BLM) for this project which would be located on approximately 7,025 acres of BLM-managed public land in the California Desert Conservation Area some eight miles west of Blythe, CA. The project would generate 1000 MW of electricity using parabolic trough technology.

In this agreement, the company consents to develop the Blythe Solar Project pursuant to certain specified conditions, to include those conditions in its Plan of Development (POD) for the project, and to submit the revised POD to the BLM for approval. The agreement also provides that BLM will incorporate the conditions in its Record of Decision (ROD) and shall include the revised POD as an exhibit in the ROD.

By signing this document in the space below, you agree on behalf of the BLM to enforce the terms of the revised POD, including the specified development conditions referred to above, through your ROD and the Right of Way grant for the project.

Accordingly, we withdraw our groups' protest of the Blythe Solar Project which was filed on September 8, 2010.

Sincerely,



Johanna H. Wald
Senior Attorney
Natural Resources Defense Council



Alice Bond
California Public Lands Policy Analyst
The Wilderness Society

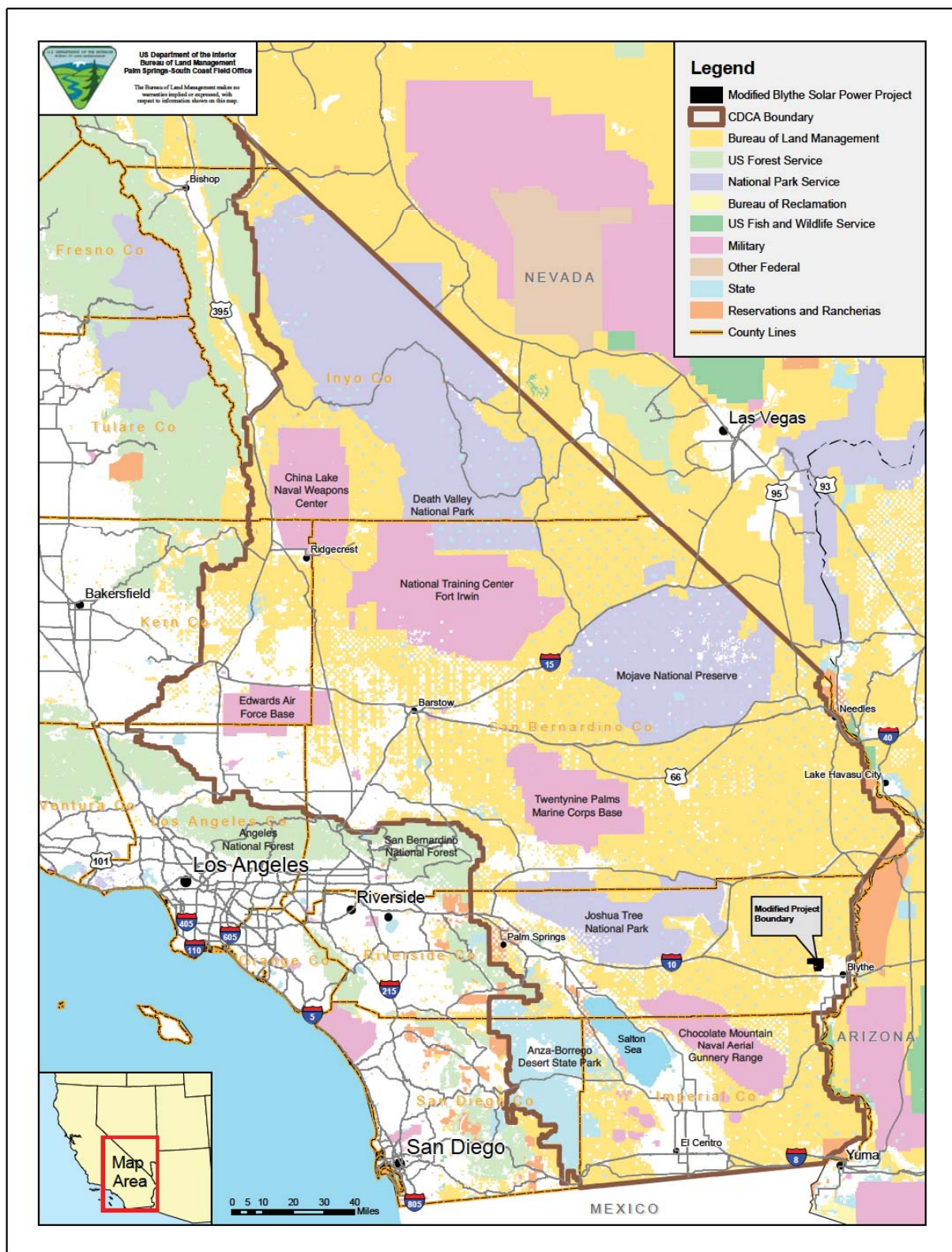
Jim Abbott, Acting State Director, BLM

Date

APPENDIX C

Figures

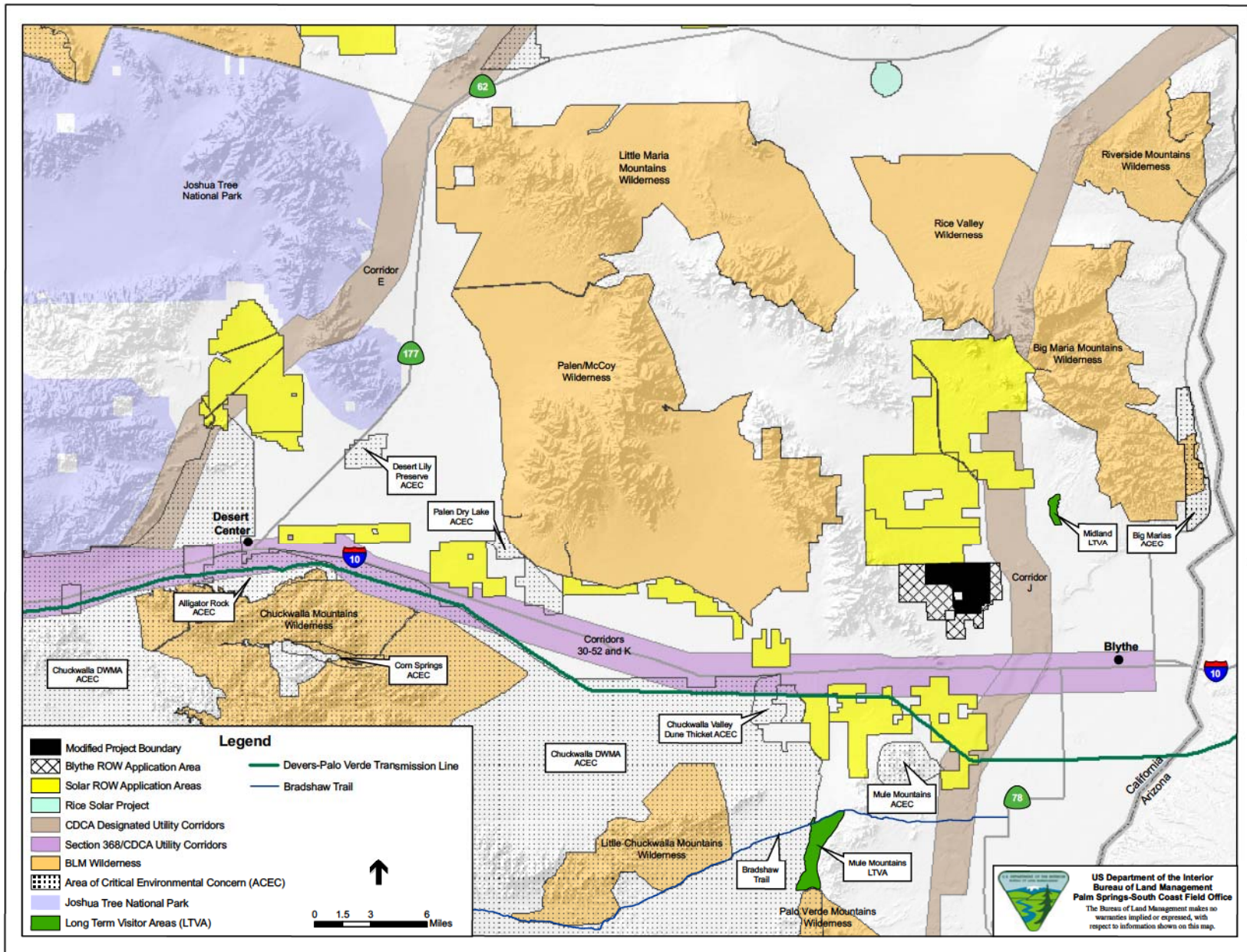
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SOURCE: BLM 2010

Modified Blythe Solar Power Project DEIS

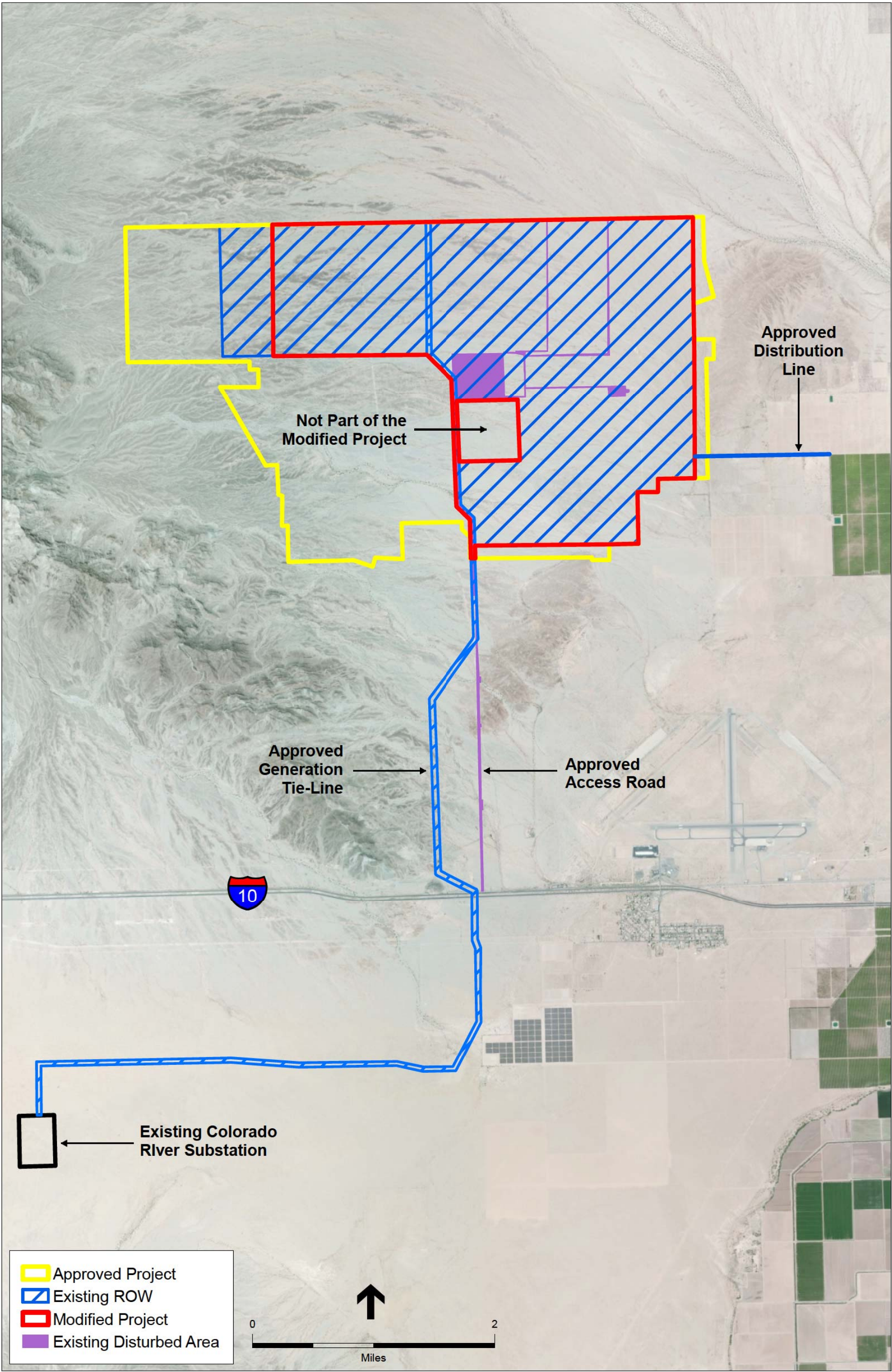
Figure 2-1
Regional Context



SOURCE: BLM 2010

Modified Blythe Solar Power Project DEIS

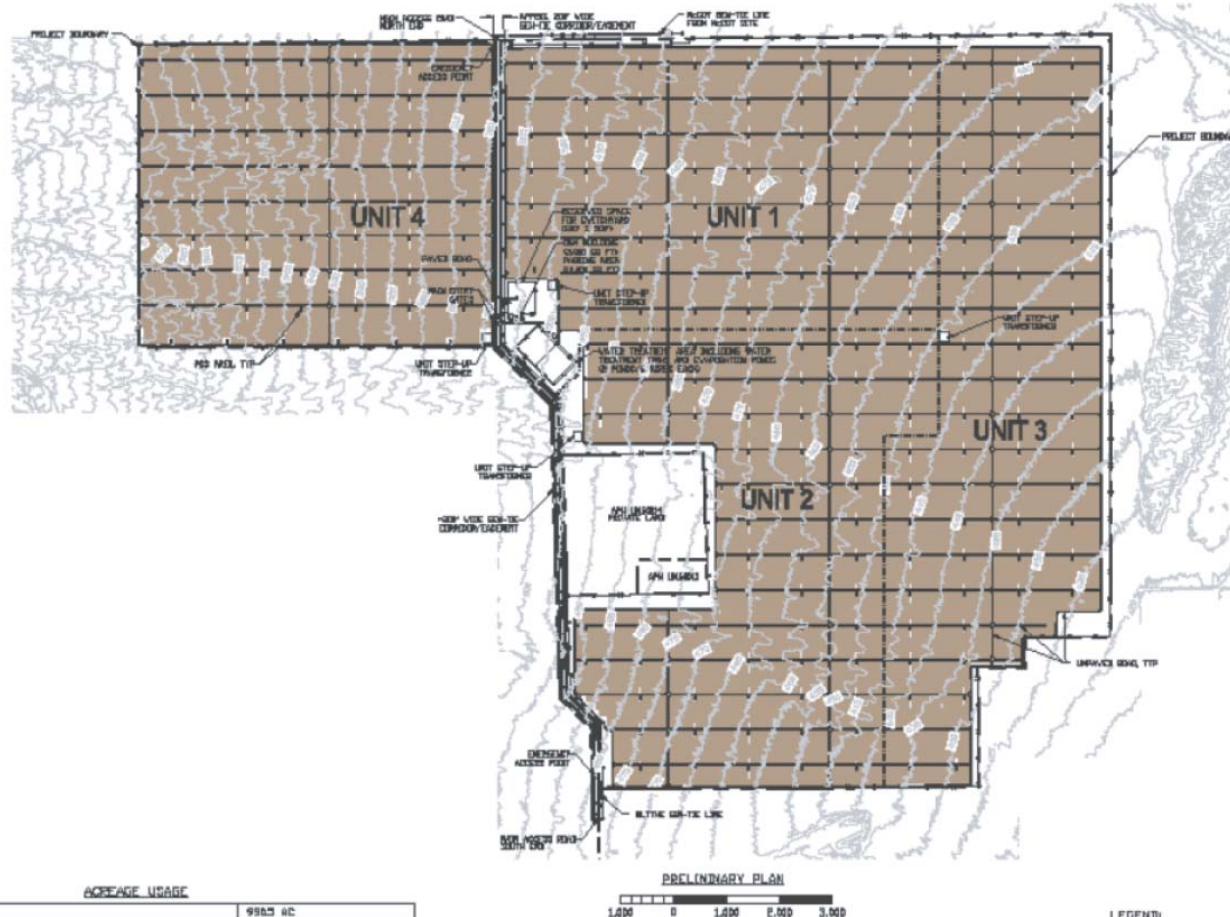
Figure 2-2
BLM Rights of Way



SOURCE: TetraTech, 2013

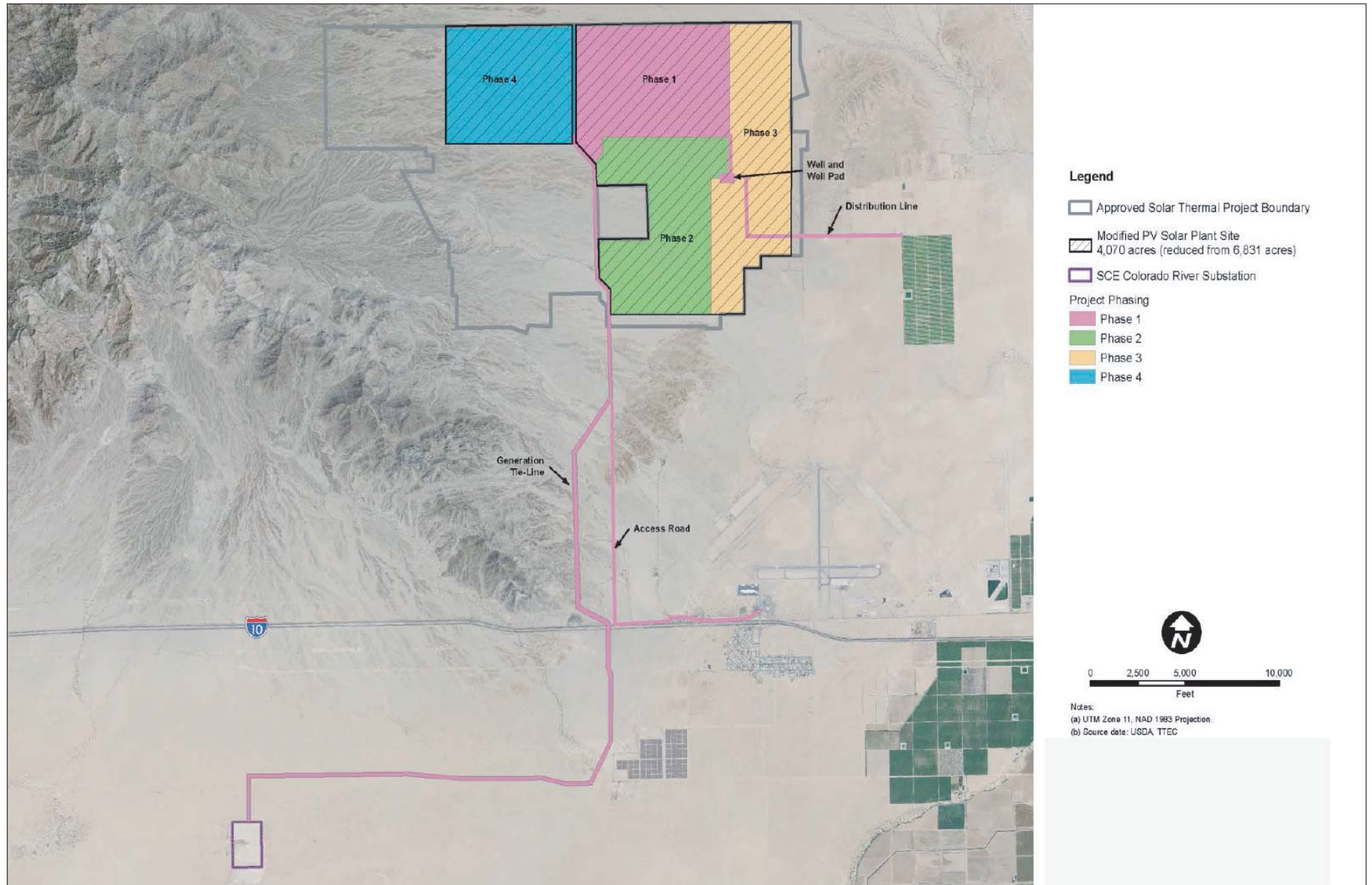
Modified Blythe Solar Power Project DEIS
Figure 2-3
Proposed Modification

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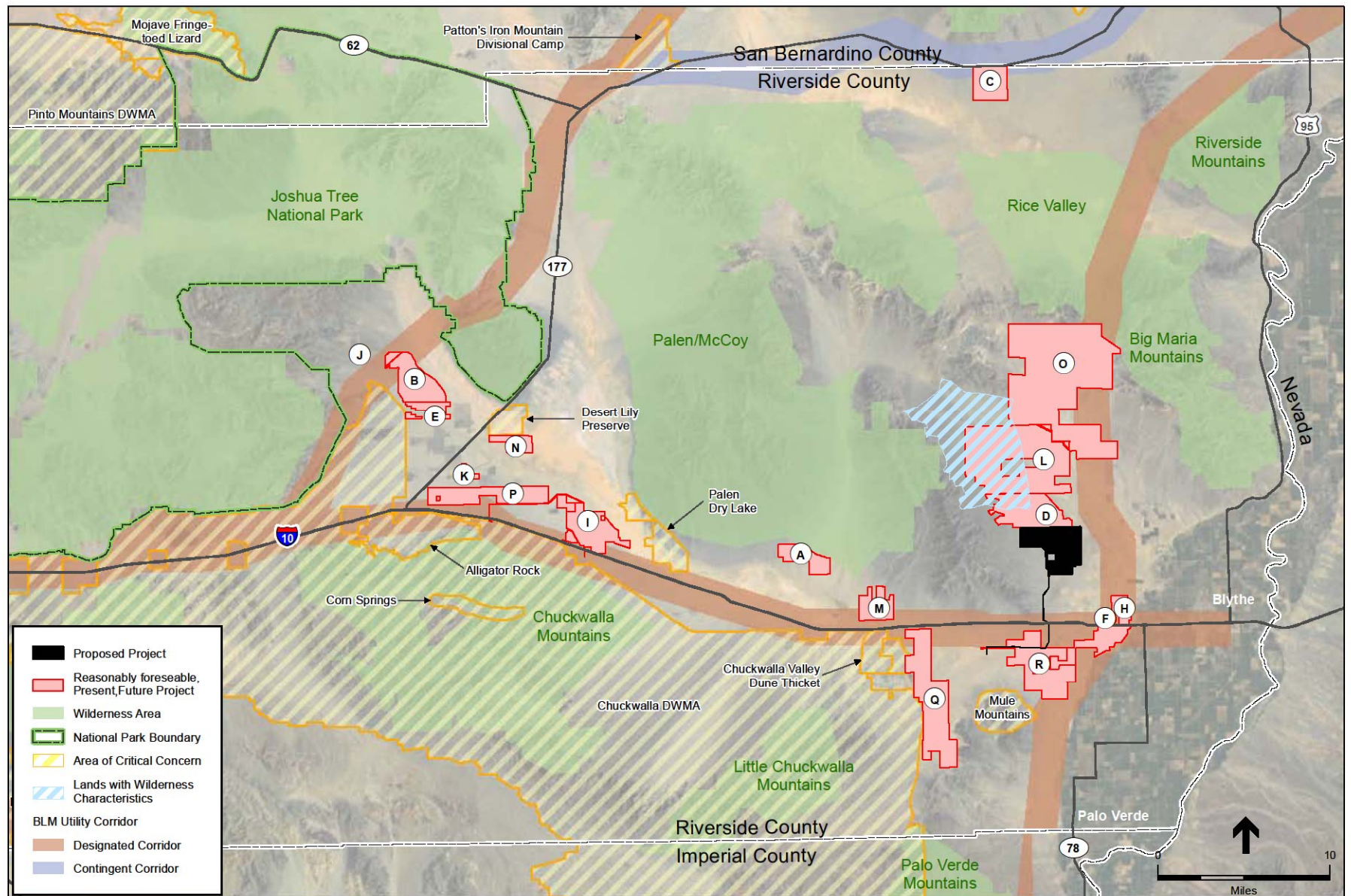
- [illegible]

Modified Blythe Solar Power Project DEIS
Figure 2-4
Site Plan



SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS
Figure 2-5
 Project Phasing

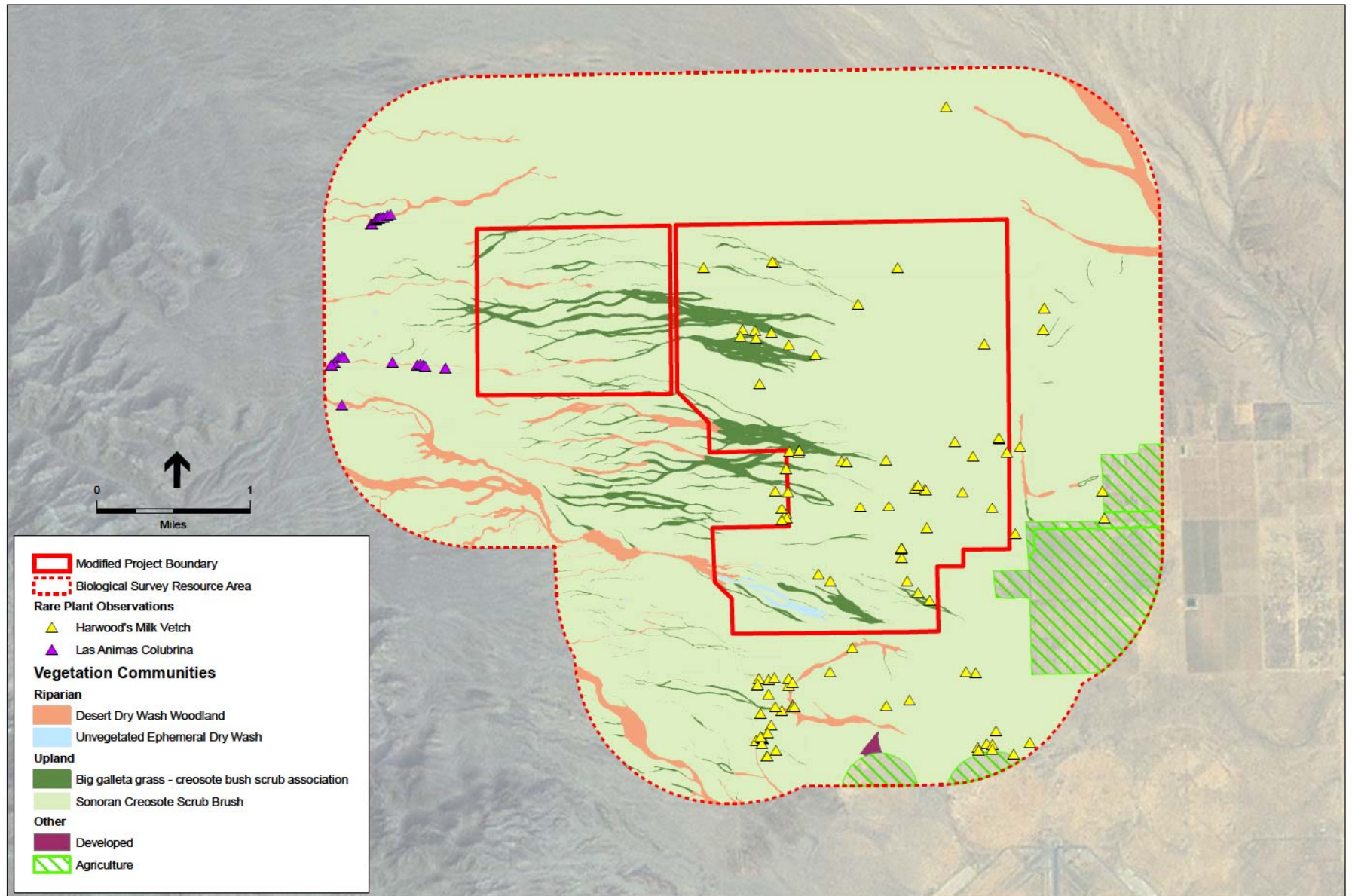


SOURCE: Riverside County, 2013; BLM, 2013; City of Blythe, 2013

Note: Refer to Tables 3.1-1 and 3.1-2 for the lists of projects in the cumulative scenario

Modified Blythe Solar Power Project DEIS

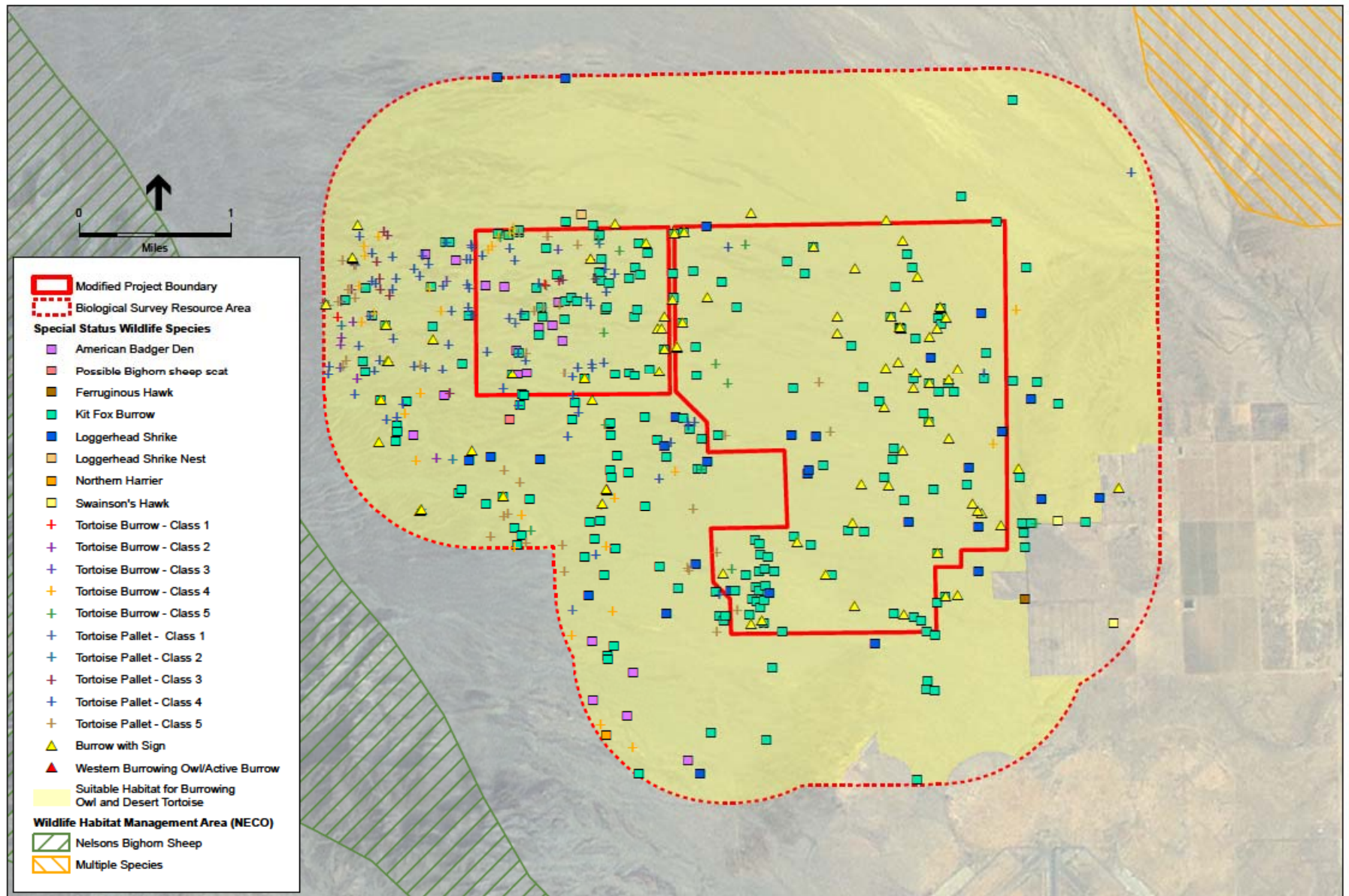
Figure 3.1-1
Cumulative Projects Scenario



SOURCE: AECOM, 2010

Modified Blythe Solar Power Project DEIS

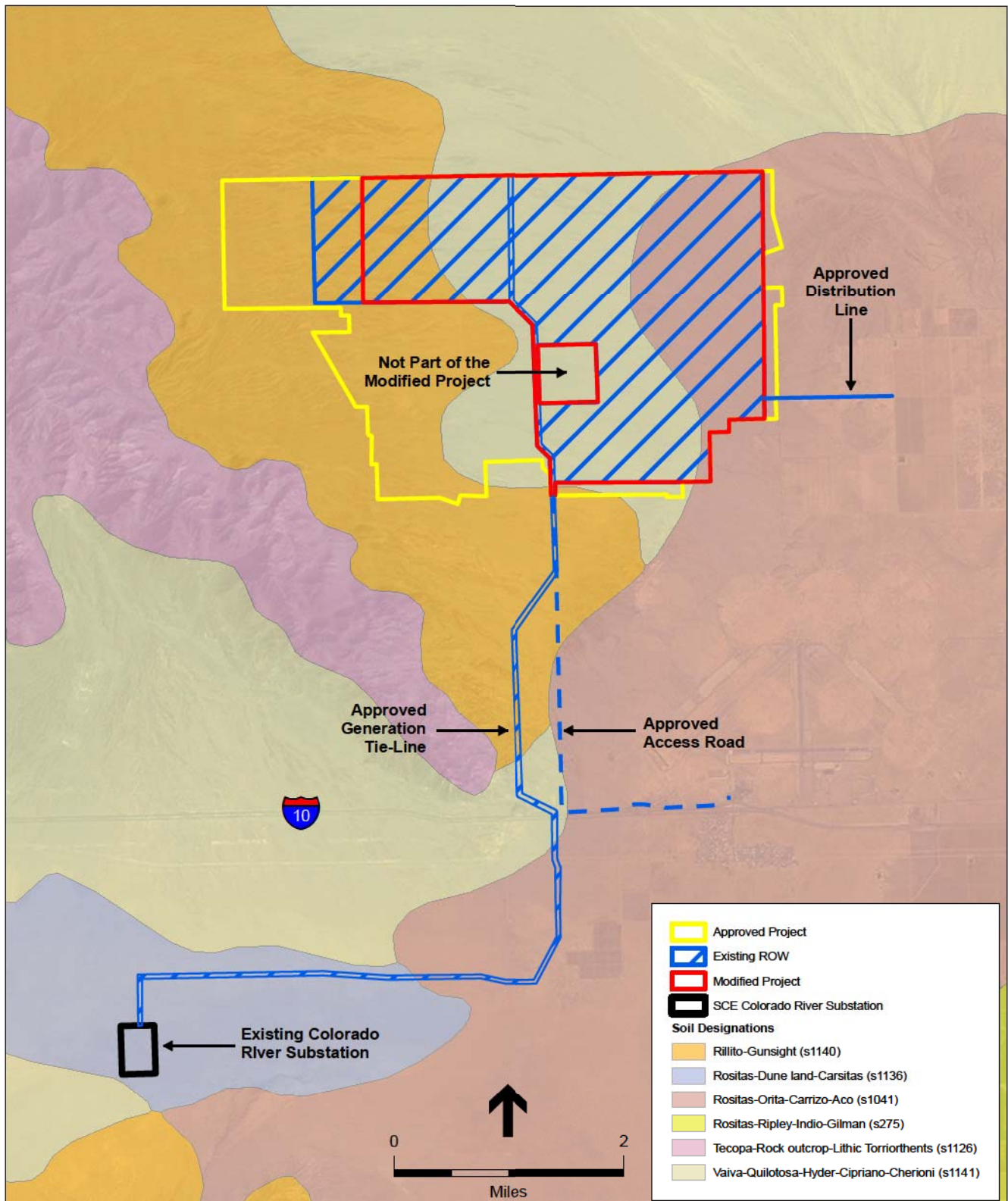
Figure 3.3-1
Vegetation Communities and
Special Status Plant Species



SOURCE: AECOM, 2010

Modified Blythe Solar Power Project DEIS

Figure 3.4-1
 Wildlife Habitat Management Areas and
 Special Status Wildlife Species



SOURCE: Klienfelder, 2009

Modified Blythe Solar Power Project EIS

Figure 3.14-1
Soils in the Project Vicinity



Characteristic Landscape on the Project Site



Elevated View from McCoy Mountains Wilderness Looking East-Northeast toward Project Area

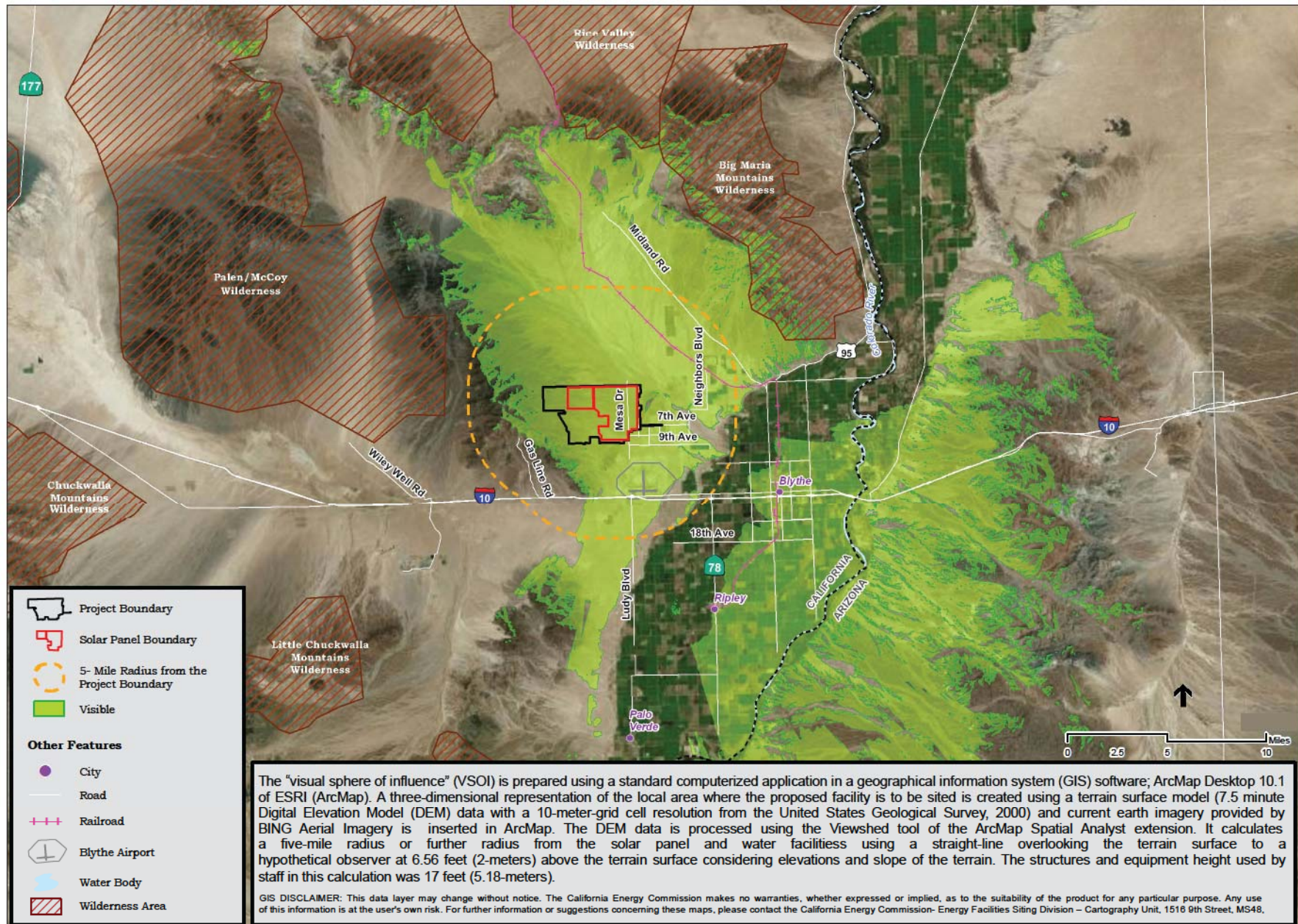


Ground Level View of the Project Area Looking North from the Blythe Airport

SOURCE: Solar Millennium AFC August 2009, CEC RSA June 2010

Modified Blythe Solar Power Project DEIS

Figure 3.17-1
Landscape Context Shots



SOURCE: Arc GIS Resource Center:Desktop 10.1 - ESRI,
California Energy Commission, BING Aerial, OpenStreetMap

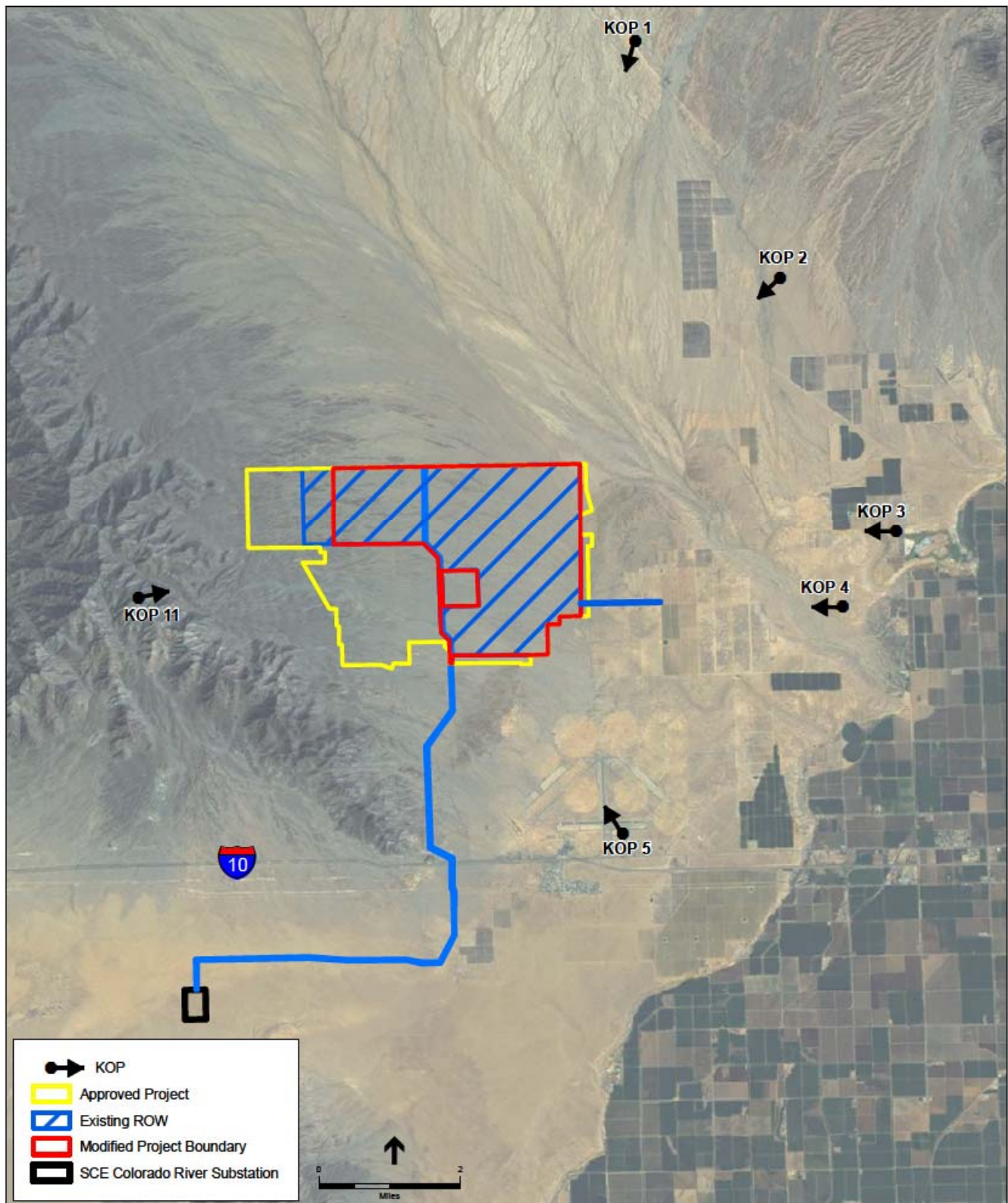
Modified Blythe Solar Power Project DEIS

Figure 3.17-2
Project Viewshed

Modified Blythe Solar Power Project DEIS

Figure 3.17-3

VRI Classes of the Project



SOURCE: TetraTech, 2013

Modified Blythe Solar Power Project DEIS
Figure 3.17-4
 KOP Locations



SOURCE: Robert Sullivan, Argonne National Laboratory

Modified Blythe Solar Power Project DEIS

Figure 3.17-5

Photovoltaic Array Examples
Silver State North Solar



SOURCE: Robert Sullivan, Argonne National Laboratory

Modified Blythe Solar Power Project DEIS

Figure 3.17-6

Photovoltaic Panels During Various Times of Day
Copper Mountain Solar Facility, Boulder City, NV



Existing Condition



Simulated Condition

SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS

Figure 3.17-7

View from KOP-1 Looking Southwest Toward BSPP Site



Existing Condition



Simulated Condition

SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS

Figure 3.17-8

View from KOP-2 Looking Southwest Toward BSPP Site



Existing Condition



Simulated Condition

SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS

Figure 3.17-9

View from KOP-3 Looking West Toward BSPP Site



Existing Condition



Simulated Condition

SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS

Figure 3.17-10

View from KOP-4 Looking West Toward BSPP Site



Existing Condition



Simulated Condition

SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS

Figure 3.17-11

View from KOP-5 Looking North Toward BSPP Site



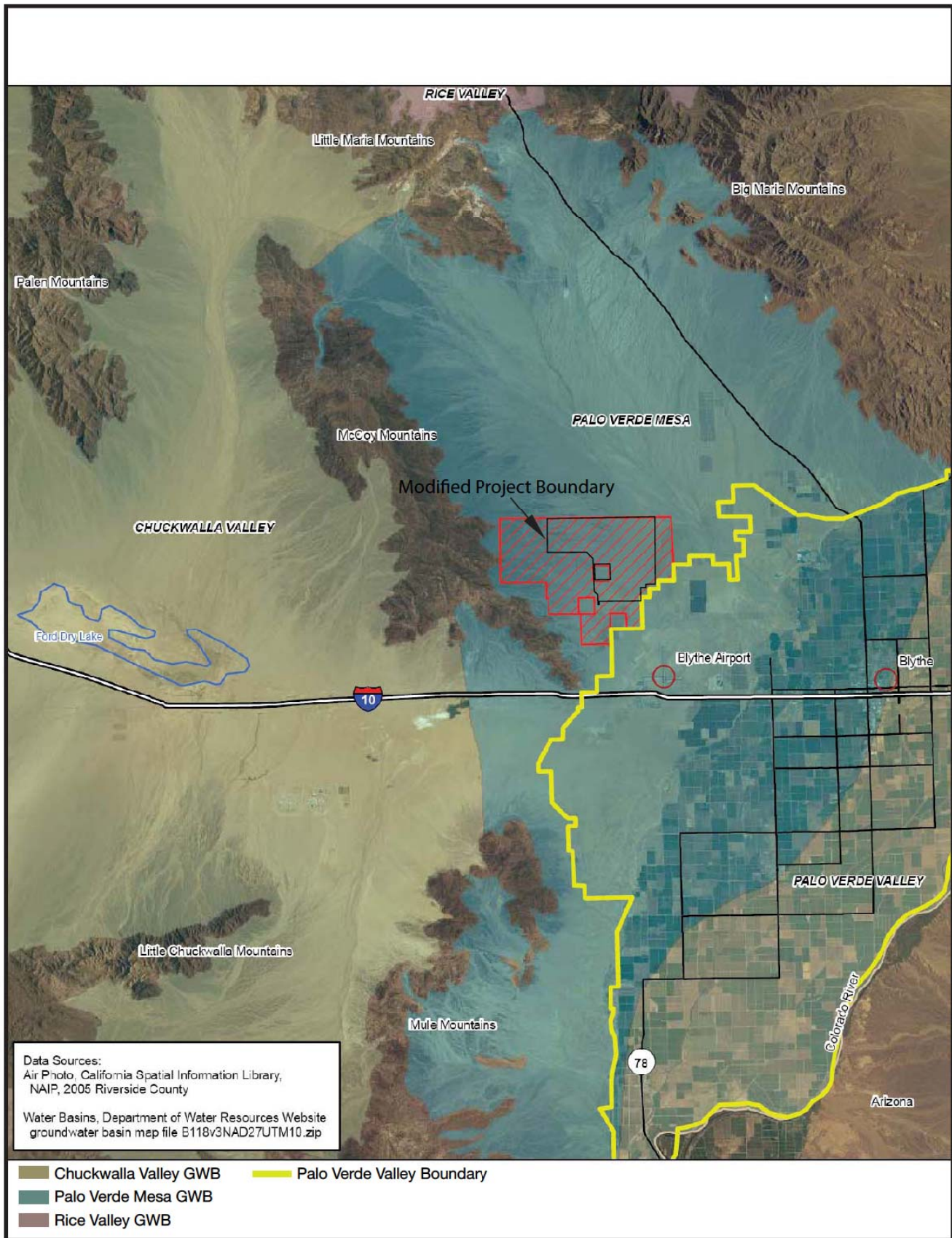
Existing Condition



Simulated Condition

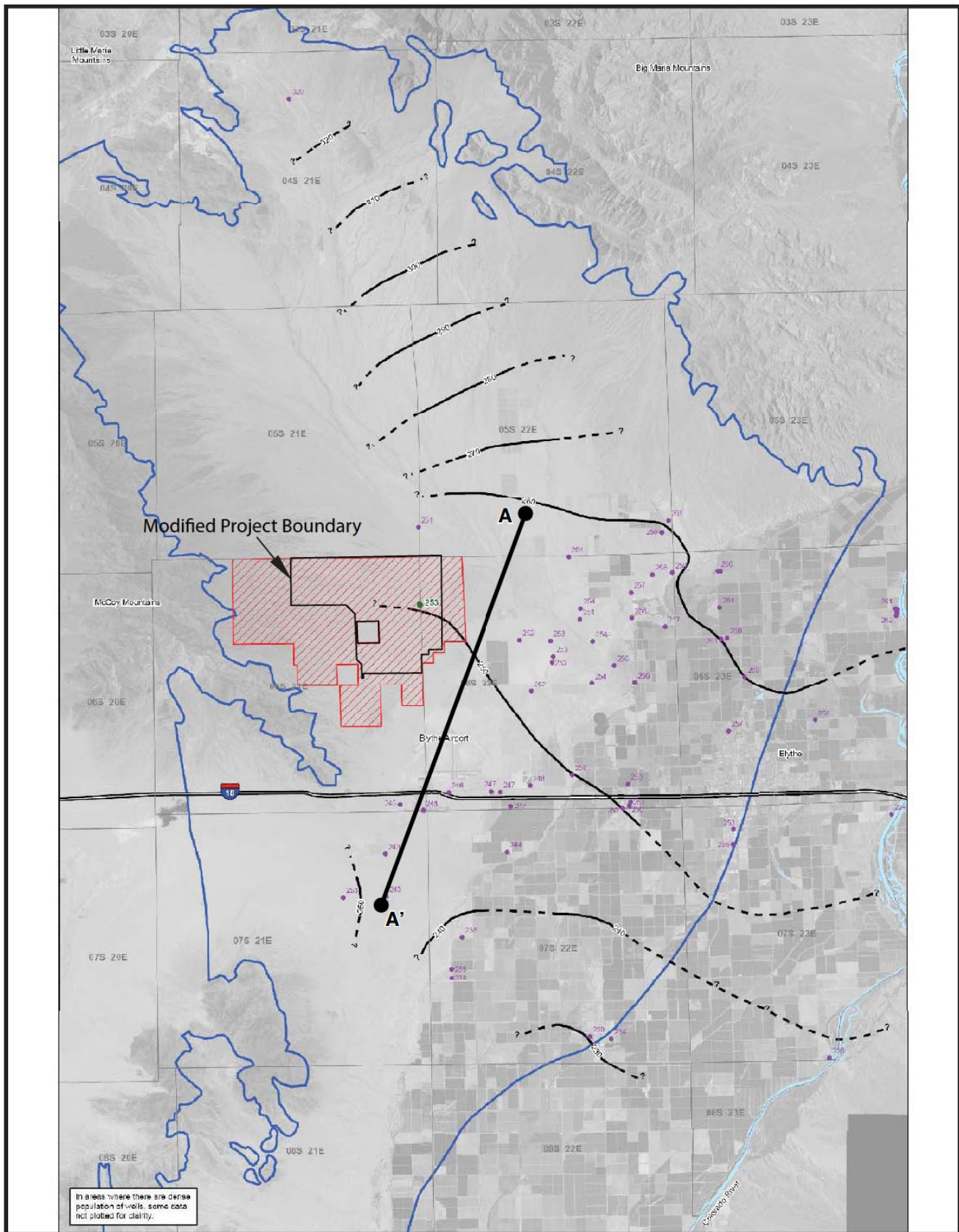
SOURCE: Tetra Tech

Modified Blythe Solar Power Project DEIS
Figure 3.17-12
 View from KOP-11 Looking East/Northeast



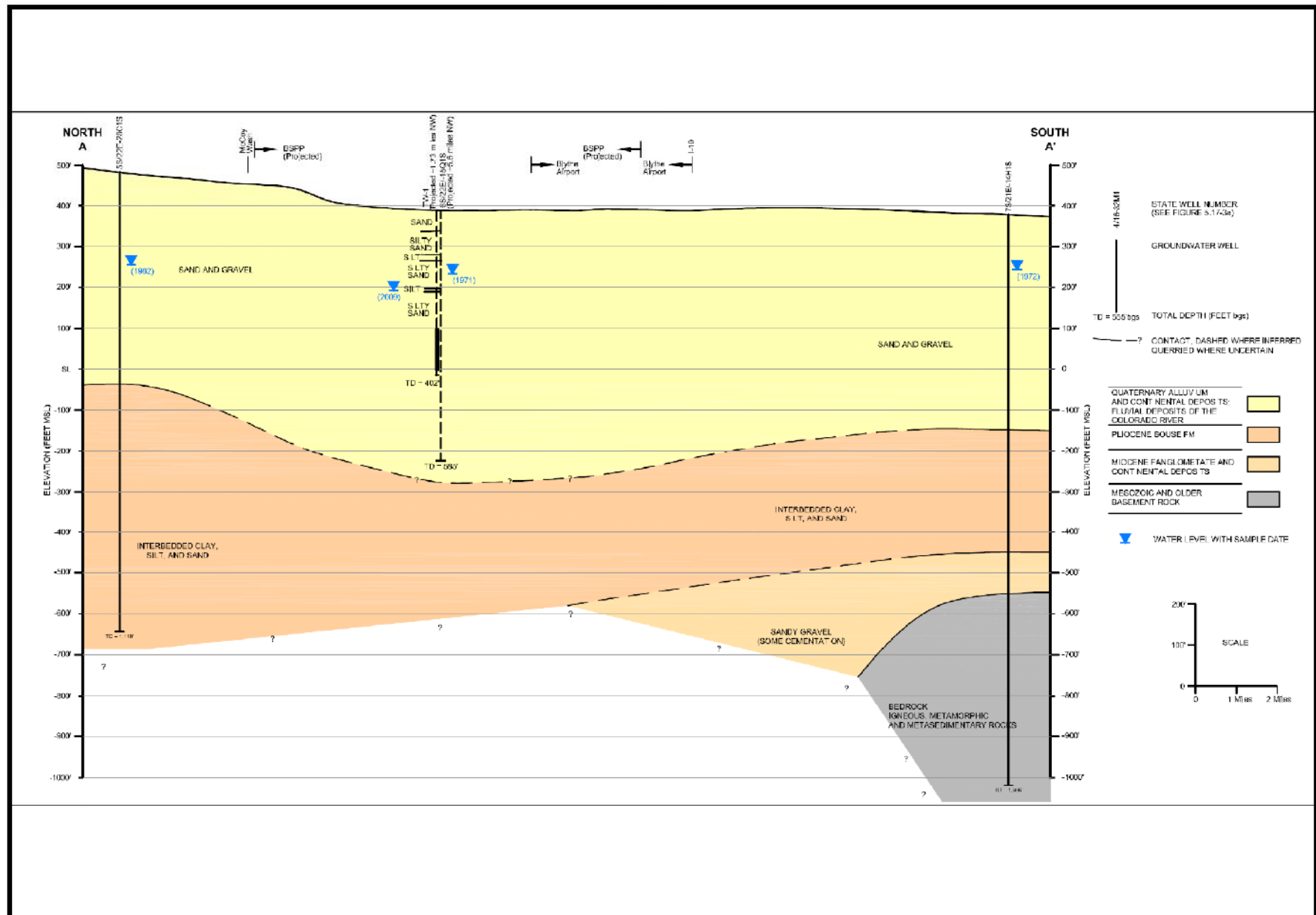
SOURCE: CEC RSA June 2010

Modified Blythe Solar Power Project DEIS
Figure 3.18-1
 Palo Verde Mesa Groundwater Basin



SOURCE: CEC RSA June 2010

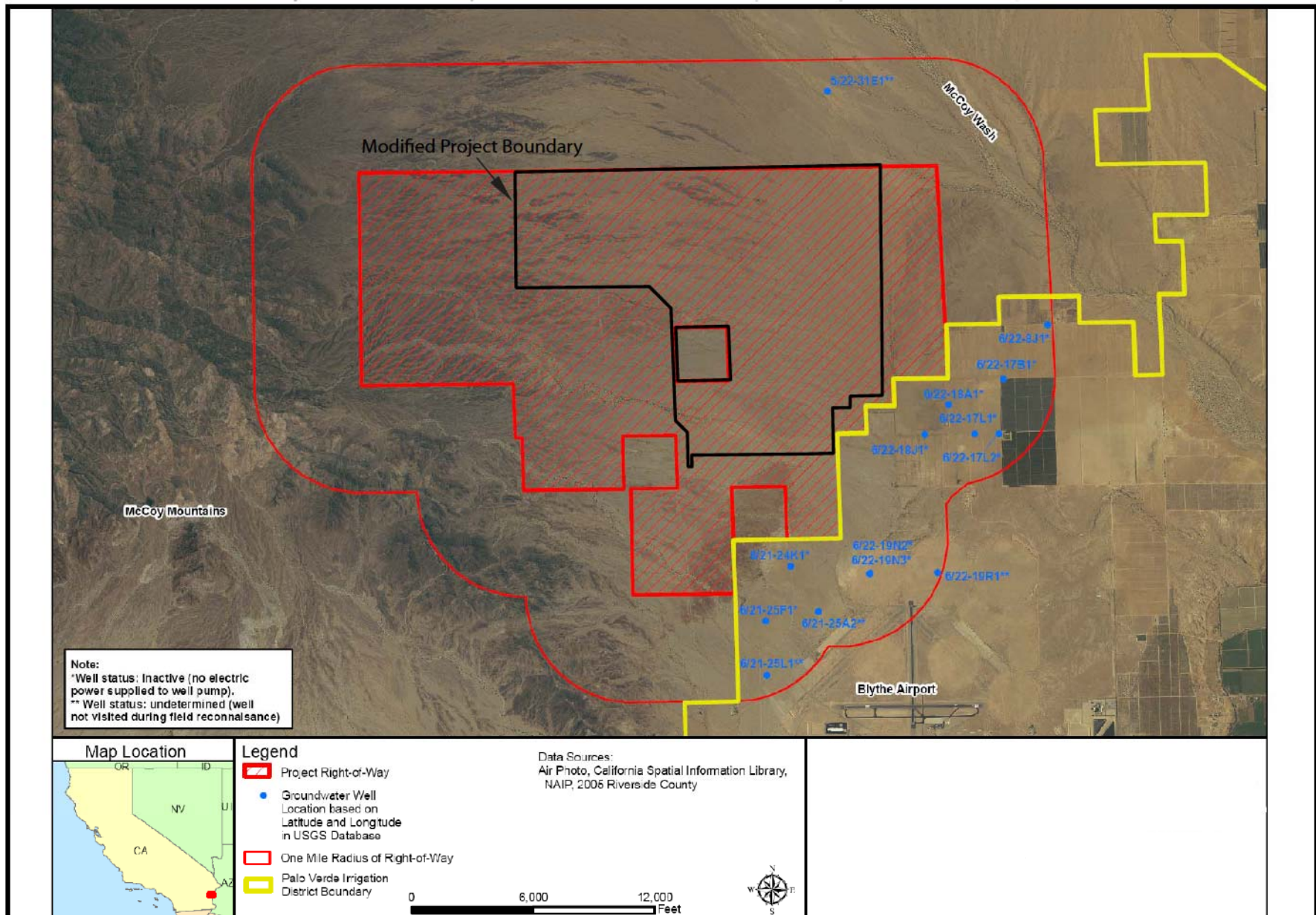
Modified Blythe Solar Power Project DEIS
Figure 3.18-2
 Groundwater Contour Map -
 Palo Verde Mesa Groundwater Basin



SOURCE: CEC RSA June 2010

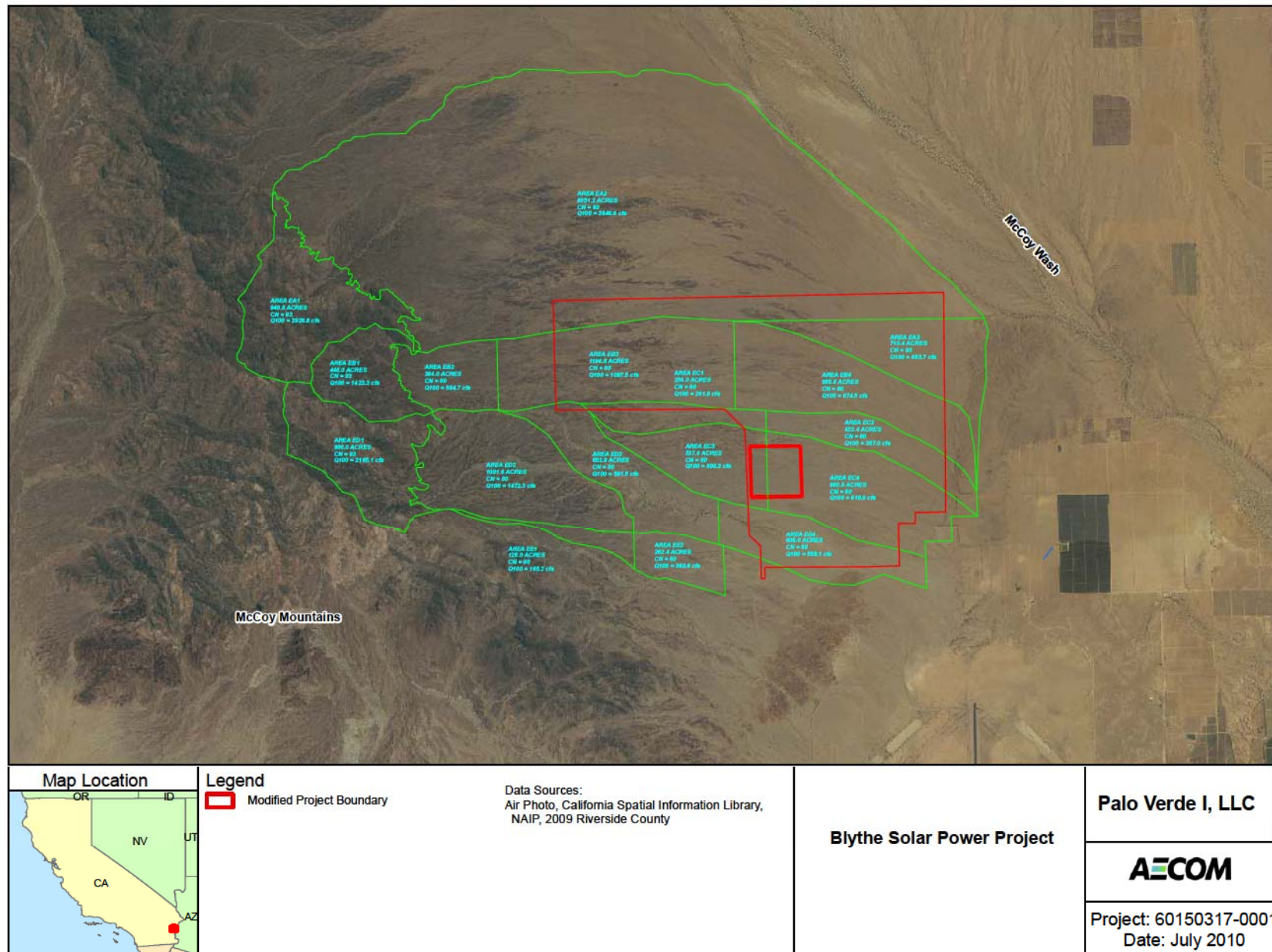
Modified Blythe Solar Power Project DEIS

Figure 3.18-3
Geologic Cross Section A-A'



SOURCE: CEC RSA June 2010

Modified Blythe Solar Power Project DEIS
Figure 3.18-4
 Location of Wells in Proximity to the BSPP



SOURCE: BLM 2010

Modified Blythe Solar Power Project DEIS

Figure 3.18-5
Watershed Boundaries and Sub-Basin Delineations

APPENDIX D

Scoping Report

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PUBLIC SCOPING REPORT

Environmental Impact Statement Modified Blythe Solar Power Project

Lead Agency:

Bureau of Land Management

Contact: Frank McMenimen, (760-833-7100)

Palm Springs-South Coast Field Office

1201 Bird Center Drive

Palm Springs, CA 92262

DECEMBER 2013

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Acronyms Used in this Report

ALUC	Airport Land Use Commission
BLM	Bureau of Land Management
BSPP	Blythe Solar Power Project
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act of 1976
LIUNA	Laborers International Union of North America, Local Union 1184
NEPA	National Environmental Policy Act
NOP	Notice of Preparation
kV	kilovolt
MW	megawatt
MWD	Metropolitan Water District of Southern California
PV	photovoltaic
ROD	Record of Decision
ROW	right-of-way
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service

1.0 Overview

1.1 Introduction

The Bureau of Land Management (BLM) fully permitted the Solar Millennium Blythe Solar Power Project (Approved Project) as a 1,000 megawatt (MW) solar thermal generating plant on 6,831 acres of public land located near the community of Blythe in Riverside County, California, by a Record of Decision (ROD) signed by the Secretary of the Department of the Interior on October 22, 2010 (BLM, 2010). The BLM issued a right-of-way (ROW) grant (CACA-048811) for the Approved Project on November 4, 2010. Construction activities commenced, but then ceased in August 2011, when Solar Millennium advised the BLM of its intent to seek to amend authorizations for the Approved Project to allow the construction and use of solar photovoltaic (PV) energy generation technology on the site.

NextEra Blythe Solar Energy Center, LLC (Grant Holder) purchased the un-built assets of the Approved Project in July 2012, relinquished a portion of the approved ROW grant on March 7, 2013, and began to maintain the site in accordance with the existing ROW approvals. The Grant Holder has applied to the BLM for a Level 3 variance to modify the approved ROW grant to construct, operate, maintain, and decommission the NextEra Blythe Solar Energy Center, LLC Blythe Solar Power Project (Modified Project), which would use PV technology instead of the approved thermal parabolic trough technology and would generate less power within a reconfigured solar plant footprint that would be smaller than the Approved Project, i.e., a nominal capacity of 485 MW on a solar plant site of 4,070 acres instead of the approved 1,000 MW on 6,831 acres.

The BLM published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Modified Project in the Federal Register on August 30, 2013 (78 Fed. Reg. 53778) (see Appendix A-1), seeking agency and other input as to the scope of the environmental analysis of the proposed modifications presented in the variance request. To emphasize, the purpose of the EIS is to document the BLM's analysis of the Modified Project; it will not supersede, or replace the BLM's Proposed Plan Amendment/Final Environmental Impact Statement (PA/FEIS) or other consideration of the Approved Project. The BLM, pursuant to its obligations under the Federal Land Policy and Management Act of 1976 (FLPMA) and National Environmental Policy Act of 1969 (NEPA), will rely extensively in the EIS on the PA/FEIS and ROD for the Approved Project to the extent that these documents inform the BLM's consideration of the effects of the Modified Project because reliance on the prior analysis is the most efficient way to meet the purposes of NEPA, avoiding redundancy in the process. Thus, the scope of the analysis in the EIS will be limited to the components of the Approved Project that would be changed by the Modified Project. Components that would not change will not be described in detail or re-analyzed in the EIS because there is no basis to overturn or reconsider the analysis in the PA/FEIS or the approval in the 2010 ROD. The components that would not change include the generation tie line and the access road.

Similarly, because the Modified Project would not affect the BLM's prior decisions to amend the California Desert Conservation Area (CDCA) Plan to identify the project site as suitable for solar energy development and to amend the Northern & Eastern Colorado Desert Coordinated Management Plan (NECO) Amendment to the CDCA Plan to close three open routes (Route Nos. 661085, 66113, and 66115) comprising approximately 4.5 miles of public access, this EIS will not describe, reanalyze, or reconsider these prior decisions.

Accordingly, comments received during the scoping period that pertain to elements of the Approved Project that will not be changed by the Modified Project, including but not limited to the generation tie line, access road, and land use plan amendments, are outside the scope of the EIS. Although such comments are summarized in Section 2.16, below, they will not be addressed in the preparation of the EIS.

This scoping report documents the BLM's scoping process for review of the Modified Project under NEPA, describes the scoping events and activities conducted for the Modified Project, and summarizes the comments received from agencies and members of the public in response to the NOI. This report serves as an information source to the BLM, as NEPA Lead Agency, in its determination of the range of issues and alternatives to be addressed in the Draft EIS. The BLM will use all comments received regarding the Modified Project during the scoping process to:

- 1) Identify key issues to focus the analysis,
- 2) Identify reasonable alternatives to the Modified Project,
- 3) Analyze environmental impacts of the Modified Project and alternatives,
- 4) Identify ways to avoid or reduce environmental impacts, and
- 5) Inform the BLM's decision-making process.

1.2 Summary of Scoping Process

The scoping process provides Tribes, government agencies, and organizations and other members of the public the opportunity to identify environmental issues and alternatives for consideration in an EIS. The scoping process and its results are an initial step in the NEPA process.

To comply with NEPA (40 CFR 1501.7), the BLM published a NOI in the Federal Register on August 30, 2013, that provided notice of the BLM's intent to prepare an EIS for the Modified Project. The NOI serves as the official legal notice that a federal agency is commencing preparation of an EIS. The Federal Register serves as the U.S. Government's official noticing and reporting publication. The NOI initiates the public scoping period for the EIS, provides information about the project, and serves as an invitation for other federal agencies to provide comments on the scope and content of the EIS. The NOI for the Modified Project is included as Appendix A-1. Also on August 30, 2013, the BLM issued a press release regarding the NOI. The press release is included as Appendix A-2. The NOI and press release were made available to agencies and the public on BLM's project-specific website:

http://www.blm.gov/ca/st/en/fo/palmsprings/Solar_Projects/Blythe_Solar_Power_Project.html

During the NOI comment period, the BLM held a public scoping meeting on September 17, 2013, at the Blythe City Hall Community Room (235 N. Broadway, Blythe, California 92225). Twenty-three people documented their attendance by signing in, including representatives from local and state agencies, organizations, and private citizens. The BLM made a PowerPoint presentation that identified the critical elements of the human environment to be evaluated in the EIS, including, but not limited to, environmental justice and socioeconomics. Additionally, the Grant Holder's representative made a PowerPoint presentation describing the Modified Project.

The scoping meeting provided Tribes, government agencies, and members of the public with an opportunity to receive information on the NEPA process and about the Modified Project, and to submit written comments. Attendees were invited to speak at the meeting, but were advised that in order to ensure that their comments were addressed in the EIS, they must submit written comments. A fact sheet about the Modified Project and comment cards were provided as handouts at the meeting. All materials provided at the meeting, as well as the meeting sign-in sheet, are provided in Appendix C.

1.3 Agencies, Organizations, and Persons Providing Scoping Comments

The comment period began on August 30 and ended on September 30, 2013. Six letters were received (see Table 1). These comments are summarized in this scoping report; copies of the letters are provided in Appendix B.

Table 1
Comments Received During Scoping Period

Author	Affiliation	Date Issued
Ann McPherson	USEPA Region IX Environmental Review Office	August 19, 2013
Richard Drury and Cathy Lee, Lozeau Drury LLP	Laborers International Union of North America, Local Union 1884	September 16, 2013
Kevin Emmerich and Laura Cunningham	Basin and Range Watch	September 26, 2013
Kim Delfino, Helen O'Shea, Sarah Friedman, Garry George, Greg Suba, and Ileene Anderson	Defenders of Wildlife / Natural Resources Defense Council / Sierra Club / Audubon California / California Native Plant Society / Center for Biological Diversity	September 26, 2013
Deirdre West	Metropolitan Water District of Southern California	September 30, 2013
Edward C. Cooper	Riverside County Airport Land Use Commission	October 2, 2013

2.0 Summary of Scoping Comments

This section of the report summarizes the written comments and questions received during the scoping process (see Table 1 and Appendix B). Briefly, the issues identified in comments focused on the description of the Modified Project and its consistency with applicable laws and policies, the BLM's purpose and need, alternatives, and potential direct, indirect, and cumulative impacts to environmental resources and other considerations, including: air resources, biological resources, climate change, cultural resources, hazards and hazardous materials, lands and realty, socioeconomics and environmental justice, soil resources, transportation and travel management, visual resources, and water resources. Detailed summaries of comments are provided below.

2.1 Project Description and General Consistency

The USEPA recommended that the Draft EIS include a requirement for a decommissioning and site restoration plan that should include cost estimates; time allotted to complete the decommissioning/restoration; a description of the structures, facilities, foundations to be removed; and a description of restoration measures including recontouring the surface and revegetation to a condition reasonably similar to the original condition.

Several commenters expressed concern regarding the consistency of the proposed modification with the National Environmental Policy Act, the Endangered Species Act, the FLPMA, and Section 4 of Secretarial Order No. 3283.

2.2 Purpose and Need

Basin and Range Watch commented that the Statement of Purpose and Need should incorporate a need to protect the natural and cultural resources that are located on the site, and should identify the potential environmental impacts of the Modified Project. This organization and Defenders of Wildlife et al. also indicated that the 10,000 MW renewable energy goal as identified in the Energy Policy Act of 2005 should not be included in the BLM's need for the Modified Project.

Defenders of Wildlife et al. recommended that the BLM's purpose and need should be to address the need to generate, deliver, and utilize greater amounts of electrical energy derived from renewable energy sources so that dependency on carbon-based fuels is reduced while preserving the natural and cultural resources of the CDCA. Defenders of Wildlife et al. also noted that without a power purchase agreement, the BLM cannot include in the purpose and need that the purpose of the proposed modification is to meet the terms of a power purchase agreement.

The USEPA commented that the purpose and need should be a clear, objective statement of the rationale for the proposed modification and that the Draft EIS should discuss the proposed modification in the context of the larger energy market, and how the Modified Project would assist the state in meeting its renewable energy portfolio standards and goals.

2.3 Air Resources

Basin and Range Watch requested that the Draft EIS analyze impacts to human health caused by airborne particulates from construction dust.

Defenders of Wildlife et al. expressed concern about air quality impacts due to the disturbance of stabilized soils on Palo Verde Mesa.

The USEPA requested that the Draft EIS provide a detailed discussion of existing conditions and regulatory standards for air quality; quantitatively estimate criteria pollutant emissions from the Modified Project and mitigation measures; specify the emission sources by pollutant (e.g., mobile sources, stationary sources, or ground disturbance) to identify appropriate mitigation; and provide and analyze the effects of a draft construction emissions mitigation plan that includes fugitive dust source controls, mobile and stationary source controls, and administrative controls.

2.4 Biological Resources

Basin and Range Watch expressed concern regarding potential impacts to mountain lions, Gila monsters, desert tortoises, bighorn sheep, burro deer, Gila woodpeckers, elf owls, microphylls, and kit foxes and the potential for a canine distemper outbreak. The commenter also requested that a Weed Management Plan to control invasive weeds be prepared for public review prior to approval of the proposed modification. Basin and Range Watch also expressed concern about bird fatalities and impacts to wildlife species due to polarized glare and the “lake effect” phenomenon.

Defenders of Wildlife et al. expressed concern about impacts to microphyll species, desert washes, sensitive plant communities, wildlife and migratory birds, and stated that mitigating the adverse impacts to sensitive lands and resources should prioritize avoidance, followed by minimization and, lastly, compensation for unavoidable impacts through off-site habitat acquisition and enhancement.

The USEPA recommend that the BLM coordinate across field offices and with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) to ensure that current and consistent surveying, monitoring, and reporting protocols are applied in protection and mitigation efforts, and requested that the Draft EIS:

- Describe the Modified Project’s compliance with Endangered Species Act requirements and the history and current status of Section 7 consultation efforts with the USFWS.
- Provide analysis of impacts and mitigation on affected species, including baseline conditions of habitats and populations; a description of how avoidance, mitigation, and conservation measures will protect and encourage the recovery of the affected species and their habitats in the project area; and monitoring, reporting, and adaptive management efforts to ensure species and habitat conservation effectiveness.
- Incorporate information on the compensatory mitigation proposals (including quantification of acreages, estimates of species protected, costs to acquire compensatory

lands, etc.) for unavoidable impacts to waters of the State and biological resources such as desert tortoise.

- Identify compensatory mitigation lands or quantify available lands for compensatory habitat mitigation for Modified Project, as well as reasonably foreseeable projects in the eastern Riverside County area, and specify provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity.
- Incorporate mitigation, monitoring, and reporting measures that result from consultation with the USFWS and CDFW, and that incorporate lessons learned from other solar projects and recently released guidance to avoid and minimize adverse effects to sensitive biological resources.
- Discuss mitigation ratios for tortoise habitat and how these relate to the mitigation ratios recommended by other agencies, as well as how they relate to mitigation ratios used for other renewable energy projects in California and Nevada.
- Describe the potential for habitat fragmentation and obstructions for wildlife movement from the construction of Modified Project and other utility scale renewable energy projects in the eastern Riverside County area.
- Discuss the need for monitoring, mitigation, and if applicable, translocation management plans for the sensitive biological resources, approved by the BLM and the biological resource management agencies. Plans that should be discussed within the Draft EIS may include: an Avian Protection Plan; a Raven Monitoring, Management, and Control Plan; Burrowing Owl Mitigation, Monitoring and Translocation Plan; Desert Tortoise Relocation/Translocation Plan; Desert Tortoise Compensatory Mitigation Plan; and Special-Status Plant Impact Avoidance and Mitigation Plan.
- Describe the extent of potential impacts from construction, installation, and maintenance activities.
- Indicate the location of important wildlife habitat areas and describe what measures will be taken to protect important wildlife habitat areas and to preserve linkages between them.
- Provide detailed information on any proposed fencing design and placement, and its potential effects on drainage systems on the project site, and describe how proposed fencing would meet appropriate hydrologic, wildlife protection and movement, and security performance standards.
- Include an invasive plant management plan to monitor and control noxious weeds.

The USEPA also requested that the BLM contact the USFWS to determine if a special purpose utility permit that would allow developers to collect dead bird carcasses on the site for the purposes of data collection and research is appropriate.

2.5 Climate Change

The USEPA requested that the Draft EIS consider how climate change could influence the Modified Project, specifically within sensitive areas, and assess how the projected impacts to other resources could be exacerbated by climate change; and quantify and disclose the anticipated climate change benefits of solar energy and the quantify greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear to compare these values.

2.6 Cultural Resources

Basin and Range Watch expressed concern over impacts to geoglyphs, intaglios, and prehistoric sites.

The USEPA requested that the Draft EIS describe the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative. It also stated that the Draft EIS should determine and address the potential existence of Indian sacred sites in the project area and describe how the Modified Project would avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist.

Both the USEPA and Basin and Range watch expressed concern about tribal consultation and provided comments indicating that the Draft EIS should provide a summary of coordination with Tribes and with the SHPO/THPO, including identification of NRHP-eligible sites, and development of a Cultural Resource Management Plan.

2.7 Hazards and Hazardous Materials

The USEPA submitted comments recommending that the Draft EIS assess potential exposures to the fungus, *Coccidioides*, and susceptibilities of workers and nearby residents to Valley Fever due to soil-disturbing activities of the Modified Project. The USEPA also requested that the Grant Holder source PV components from a company that minimizes environmental impacts during raw material extraction; manufactures PV panels in a zero waste facility; provides future PV disassembly for material recovery for reuse and recycling; and minimizes the carbon footprint associated with the manufacture and transport of PV panels.

The Riverside County Airport Land Use Commission (ALUC) commented on potential hazards to airport operations due to glint and glare from the Modified Project solar field.

2.8 Lands and Realty

Basin and Range Watch commented that the Modified Project would impair other land uses.

Defenders of Wildlife et al. expressed concern over nonconformity with CDCA Plan and Programmatic Solar Energy Development Plan.

MWD requested that the Draft EIS evaluate the potential impacts of the Modified Project on MWD facilities.

The USEPA recommended that the Draft EIS discuss how the Modified Project would support or conflict with the objectives of federal, state, tribal, or local land use plans, policies and controls in the project area, including proposed plans not yet developed if they have been formally proposed by the appropriate government body in a written form.

2.9 Socio-Economics and Environmental Justice

The USEPA requested that the Draft EIS evaluate potentially affected environmental justice populations and address the potential for disproportionate adverse impacts to minority and low-income populations, and describe the approaches used to foster public participation by these populations. It also recommended that the Draft EIS describe outreach conducted to all other communities that could be affected by the Modified Project, including rural communities that may be among the most vulnerable to potential health risks associated with the Modified Project.

2.10 Soil Resources

Defenders of Wildlife et al. expressed concern over potential soil erosion due to the disruption of stabilized soils on the Palo Verde Mesa.

2.11 Transportation and Travel Management

Basing and Range Watch commented that the Modified Project would impair public access.

2.12 Visual Resources

Basin and Range Watch expressed concern over impacts to visual resources due to air pollutant emissions, glare, and the large size of the Modified Project. This organization also expressed concern about the Modified Project's potential effects on Visual Resource Management zones.

The Riverside County ALUC commented on the Grant Holder's request to be able to select among single-axis tracking or fixed-axis tilt technologies, or a combination of the two, indicating that the technology chosen will determine the potential for glint and glare, and requesting that the Draft EIS analyze morning and afternoon glare at each equinox and solstice for any possible configuration of technologies, and address cumulative glint and glare impacts.

2.13 Water Resources

Several commenters expressed concern about the Modified Project's water demand, potential impacts on erosion, and impacts on and from surface water flows. MWD requested that the Draft EIS evaluate the Modified Project's potential impact and contribution to cumulative impacts on Colorado River and local groundwater supplies.

The USEPA recommended that the Draft EIS include:

- A discussion of the amount of water needed for the construction and operation of the proposed PV electrical generation facility and where this water will be obtained;
- A discussion of availability of groundwater within the basin and annual recharge rates. A description of the water right permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated;
- A discussion of the potential effects of groundwater use on other water users and natural resources, including springs, open water bodies, and biological resources;
- A discussion of reasonably foreseeable direct, indirect, and cumulative impacts to groundwater supply within the hydrographic basin, including impacts from other large-scale solar installations that have also been proposed;
- An analysis of different types of technology that can be used to minimize or recycle water;
- A discussion of whether it would be feasible to use other sources of water, including potable water, irrigation canal water, wastewater or deep-aquifer water; and
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

Additionally, the USEPA requested that the Draft EIS clarify whether the previous determination regarding Waters of the U.S remains valid for the Modified Project and include the appropriate USACE jurisdictional determination within the document.

Regarding drainages, ephemeral washes, and floodplains, the USEPA's comments requested that the Draft EIS characterize the functions of any aquatic features that could be affected by the Modified Project; describe how the Grant Holder would avoid, minimize and mitigate such impacts; and include and evaluate a desert or ephemeral wash avoidance alternative. The USEPA also recommended a suite of measures to avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels, and local scour),

Finally, the USEPA requested that the Grant Holder determine if it would need a California State Water Resources Control Board Construction General Permit, and if such a permit is required,

that the Draft EIS include a description of the proposed stormwater pollution control and mitigation measures.

2.14 Alternatives

Commenters requested that a range of alternatives be considered, including:

- alternatives on brownfields and degraded or contaminated lands, including fallow or abandoned agricultural lands;
- a separate alternative identified as the Palo Verde Mesa Solar Project;
- a reduced acreage alternative;
- a range of project sizes and configurations that would generate varying amounts of electrical power;
- a distributed solar PV project;
- alternative sites including combinations of public and private lands;
- alternative generating technologies; and
- an alternative that avoids desert or ephemeral washes.

The USEPA recommended that the Draft EIS describe how each alternative was developed, how it addresses each project objective, and how it would be implemented; and describe the rationale used to determine whether impacts of an alternative are significant or not.

2.15 Cumulative and Indirect Impacts

Several commenters requested that the Draft EIS analyze the cumulative impacts on air quality that could result from the removal of stabilized soil and biological soil crust, on Visual Resource Management zones, on biological resources, and on water supply. Defenders of Wildlife et al. also indicated that an analysis of the potential cumulative effects should consider BLM policy regarding natural communities, with emphasis on communities that are present in small quantity, have a high species richness, and support many special-status species.

The USEPA also requested that the Draft EIS describe the reasonably foreseeable future land use and associated impacts that may result from the additional power supply. The document should provide an estimate of the amount of growth, its likely location, and the biological and environmental resources that may be at risk as a result.

2.16 Issues Outside the Scope of the EIS

Comments received regarding components of the Approved Project that would not be affected by the Level 3 variance request reflected in the Modified Project are outside the scope of the Draft EIS, which will analyze only the proposed modification.

The USEPA requested that the Draft EIS include assurances that the design of the transmission line would be in compliance with current standards and practices that reduce the potential for raptor fatalities and injuries, and include a requirement for an Avian Protection Plan to be developed using the 2005 Avian Power Line Interaction Committee and USFWS Avian Protection Plan Guidelines, in consultation with the USFWS to determine if there are any appropriate adaptive management measures that could be implemented to respond to bird kills.

The Riverside County ALUC commented on the potential impact of the generation tie line, which is the same as that approved in the ROD for the Approved Project and will not be re-analyzed in the Draft EIS.

Basin and Range watch commented on the adequacy of the dust mitigation for the access roads constructed for the Approved Project.

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APPENDIX A

Notice of Intent

Dunes ACEC area includes the current Blowout Penstemon ACEC and additional area surrounding the existing ACEC. The nominated area was found to meet the relevance and importance criteria. The area is considered in this EA with additional use restrictions which would occur if the area is formally designated including limiting off-road travel and locatable/leasable mineral entry, intensive management of surface disturbing activities, and control of pesticide use. The RMP plan amendment will comply with the National Environmental Policy Act, the Federal Land Policy Management Act, and other applicable laws, executive orders, regulations, and be consistent with applicable policies. The planning effort will recognize valid existing rights. Decisions in the amendment will apply only to the BLM-administered public lands and Federal mineral estate in the planning area.

A collaborative and multi-jurisdictional approach will be used to jointly determine the desired future condition and management direction for Visual Resources and ACECs in the Rawlins Field Office Planning Area. To the extent possible and consistent with applicable laws, regulations and policies, the BLM management and planning decisions will complement the planning and management decisions of other agencies, State and local governments, and Native American tribes, with jurisdictions intermingled with, and adjacent to, the planning area.

A total of 9,369 comments were received during scoping, of which 214 were considered to be unique. A majority of the comments were received by individuals and non-governmental organizations, and identified the following key issues:

1. Impacts to historic trails and roads;
2. Potential changes to existing land use planning and consistency with current management;
3. Continuation of public involvement;
4. Socioeconomic impacts; and
5. Impacts of additional ACEC designations.

Please note that public comments and information submitted including names, street addresses, and email addresses of persons who submit comments will be available for public review and disclosure at the above address during regular business hours (8 a.m. to 4 p.m.), Monday through Friday, except holidays. You may submit comments in writing to the BLM at any public meeting, or you may submit them to the BLM using one of the methods listed in the “ADDRESSES” section above. For your comments to be most effective and

fully considered, you should submit comments by the close of the 60-day comment period.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1506.6, 43 CFR 1610.2

Donald A. Simpson,
State Director, Wyoming.

[FR Doc. 2013–21118 Filed 8–29–13; 8:45 am]

BILLING CODE 4310–22–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CACA 048811, LLCAD01500,
L51010000.LVRWB13B5340.FX0000]

Notice of Intent To Prepare an Environmental Impact Statement for the Blythe Solar Power Project, Riverside County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended (FLPMA), the Bureau of Land Management (BLM) Palm Springs/South Coast Field Office, Palm Springs, California, intends to prepare an Environmental Impact Statement (EIS) considering proposed amendments to the Blythe Solar Power Project (BSPP) right-of-way (ROW) grant (CACA–048811). The amendments include a change in technology, reduced project footprint, and operation by a different project owner. By this notice, the BLM is announcing the beginning of the scoping process to solicit public comments and identify issues for the EIS.

DATES: This notice initiates the public scoping process for the EIS. Comments on issues related to the EIS may be submitted in writing until September 30, 2013. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through local media, newspapers, and on the BLM Web site at: <http://www.blm.gov/ca/st/en/fo/cdd.html>. In order to be fully addressed in the Draft

EIS, all comments must be received prior to the close of the 30 day scoping period or 15 days after the last public meeting, whichever is later. We will provide additional opportunities for public participation upon publication of the Draft EIS.

ADDRESSES: You may submit comments on issues and alternatives related to the BSPP EIS by any of the following methods:

- **Web site:** <http://www.blm.gov/ca/st/en/fo/cdd.html>.
- **Email:** fmcmenimen@blm.gov.
- **Fax:** 760–833–7199, Attn: Frank McMenimen.

• **Mail:** ATTN: Frank McMenimen, Project Manager, BLM Palm Springs Field Office, 1201 Bird Center Drive, Palm Springs, CA 92262–8001.

Documents pertinent to this EIS may be examined at the BLM California Palm Springs Field Office.

FOR FURTHER INFORMATION CONTACT:

Frank McMenimen; telephone 760–833–7199; address Frank McMenimen, Project Manager, BLM Palm Springs Field Office, 1201 Bird Center Drive, Palm Springs, CA 92262–8001; email fmcmenimen@blm.gov. Contact Mr. McMenimen to have your name added to our mailing list. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The BSPP was originally permitted and approved on October 22, 2010, as a 1,000 megawatt (MW) solar thermal generating plant located on 6,831 acres of BLM-administered public land in the Palm Springs Field Office (CACA–048811). The Project area is located 8 miles west of Blythe, California, and 3 miles north of Interstate 10 (I–10).

The ROW grant was originally issued to Palo Verde Solar I, LLC, a wholly-owned subsidiary of Solar Millennium, which filed for Bankruptcy in April 2012. In mid-October 2012, NextEra Blythe Solar Energy Center, LLC (NBSEC), purchased the un-built BSPP as part of the bankruptcy process. The BLM approved the assignment of the ROW grant from the Palo Verde Solar I, LLC, to NBSEC on August 22, 2012. NBSEC now proposes to modify the solar technology and reduce the size of the project within the previously approved BSPP footprint. The NBSEC is proposing to construct, operate, maintain, and decommission the BSPP

using solar photovoltaic (PV) technology with a capacity of 485 MWs on 4,138 acres of BLM-administered public land, as opposed to the originally approved 1,000 MWs on 6,831 acres. The NBSEC has submitted an amendment to the existing ROW grant (CACA 048811) to reduce the overall acreage of the project, change the authorized technology from concentrating solar trough to solar PV, adjust other aspects of the project layout related to the technology change, and reduce the BSPP's authorized capacity from 1,000 MW to 485 MW (the "Modified Project"). In connection with its development of the Modified Project, NBSEC filed a partial relinquishment of the existing ROW grant with the BLM on March 7, 2013.

The BLM has determined that the requested amendment for the Modified Project is not within the range of alternatives analyzed in the EIS prepared in connection with the original 2010 decision for the project; therefore, the BLM must undertake additional NEPA analysis to evaluate the proposed amendment.

The purpose of the public scoping process is to determine relevant issues that will influence the scope of this environmental analysis, including alternatives, and to guide the process for developing the Draft EIS. The BLM has identified the following preliminary issues: Noise, visual resources, wildlife, vegetation, hydrology, air quality, and cumulative effects along with other areas with high potential for renewable energy development. The BLM published the Final EIS for the existing project on August 20, 2010. The BLM will incorporate the analysis of that Project by reference to the extent appropriate, and also seeks comments on whether new issues or information have arisen since the publication of that Final EIS. Although the proposed amendment would be entirely within the project footprint analyzed in the 2010 Final EIS, the BLM has determined that a new EIS would assist in planning and decision-making on whether to approve NBSEC's proposed amendment.

The BLM, in consultation with the California State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), and consulting parties pursuant to 36 CFR 800.4(b)(2), are phasing final identification and evaluation of historic properties for the project pursuant to 36 CFR 800.4(b)(2) because the alternatives under consideration consist of large land areas. In accordance with the requirements of 36 CFR 800.4(b)(2), the BLM executed a Programmatic Agreement (PA) in connection with its prior approval of the BSPP. The PA sets

forth the process for completing phased compliance with Section 106 of the NHPA and also addresses subsequent modifications to the Project.

The BLM previously notified and invited federally recognized tribes to participate in the development of the PA. The Agua Caliente Band of Cahuilla Indians and the Colorado River Indian Tribes signed the PA as Concurring Parties. Tribes expressed their views and concerns about the importance and sensitivity of specific cultural resources to which they attach religious and cultural significance. The BLM will continue to consult with the tribes throughout the implementation of the PA regarding the adverse effects to historic properties to which they attach religious and cultural significance. The BLM will carry out its responsibilities to consult with tribes on a government-to-government basis and other members of the public pursuant to Section 106, Executive Order 13175, and other laws and policies to the extent applicable to its consideration of NBSEC's proposed amendment to the BSPP ROW grant. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, will be given due consideration as part of that process.

Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the BLM's decision on the proposed project and amendment of the existing ROW authorization, are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate in the development of the environmental analysis as a cooperating agency.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1501.7, 43 CFR 1610.2, 2091.3–1(e), and 2804.25(e).

Thomas Pogacnik,

Deputy State Director, California.

[FR Doc. 2013–21285 Filed 8–29–13; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNVS0100.L51010000.
ER0000.LVRWF1304100; NVN–085801,
NVN–088592, NVN–089530, and NVN–
090050; MO# 4500053295; TAS: 14X5017]

Notice To Extend Mineral Segregation for the Proposed Silver State Solar Project Near Primm in Clark County, Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: Publication of this notice serves to extend the segregation of the identified lands for an additional two years from appropriation pursuant to the public land laws, including location pursuant to the *General Mining Act*, but not the *Mineral Lands Leasing Act* or the authority of the *Materials Act of 1947*, subject to valid existing rights in existence prior to the original segregation. This segregation extension is warranted to provide for the orderly administration of the public lands to facilitate the development of valuable renewable energy resources and to avoid conflicts between renewable energy generation and mining claims.

DATES: *Effective Date:* September 1, 2013.

FOR FURTHER INFORMATION CONTACT: For further information or to have your name added to the mailing list, contact Gregory Helseth, Renewable Energy Project Manager, at 702–515–5173; or email at SilverStateSouthEIS@blm.gov. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339 to contact the above individual. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: Silver State Solar, LLC, has submitted a right-of-way (ROW) application for the construction, operation, maintenance, and termination of a solar energy generation facility on a portion of the ROW application on 13,043 acres of public lands east of Primm, Nevada. The ROW application is assigned BLM case number NVN–089530. This application expands on ROW application NVN–085801. The proposed solar energy project would consist of photovoltaic panels and related ROW appurtenances, including a substation and switchyard facilities, and would produce about 250 megawatts of electricity. The lands



U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT NEWS RELEASE
California Desert District Office

Release Date: 08/30/13

News Release No. CA-CDD-13-51

Contacts: Stephen Razo (951) 697-5217

BLM Announces Notice of Intent to Prepare an Environmental Impact Statement for Blythe Solar Power Project

The Bureau of Land Management (BLM) today published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the proposed Right of Way Amendment for the Blythe Solar Power Project, Riverside County, CA.

The Blythe Solar Power Project (BSPP) was fully permitted and approved as a 1,000 megawatt (MW) solar thermal generating plant in 2010. NextEra Blythe Solar Energy Center, LLC (NBSEC) purchased the fully permitted (un-built) project assets in mid-2012 and now proposes to modify the technology and reduce the size of the project entirely within the approved BSPP footprint.

The Applicant is proposing to construct, operate, maintain, and decommission the BSPP using photovoltaic (PV) technology with a 485 MW capacity on 4,138 acres of BLM-administered public land. An amendment to the existing ROW authorization has been submitted to reduce the acreage of the project, change the technology from concentrating solar trough to photovoltaic, adjust the project layout per the new technology and reduce the projects capacity from 1,000 to 485 megawatts. On August 22, 2012, BLM approved the assignment of the ROW Grant from the prior holder, Palo Verde Solar I, LLC, to NBSEC. The Project area is located 8 miles west of Blythe and three miles north of Interstate 10 (I-10).

The BLM, as the lead agency under the National Environmental Policy Act, will prepare an Environmental Impact Statement (EIS) to analyze the site-specific impacts of the proposed amendment to the existing ROW. The EIS will analyze the site-specific change to impacts on air quality, biological resources, cultural resources, water resources, geological resources and hazards, hazardous materials handling, land use, noise, wilderness characteristics, visual resources, transmission system engineering, and transmission line safety.

Publication of the NOI initiates a public scoping period of 30 days ending September 29. During the scoping period, the BLM will solicit public comments on environmental issues, potential changes to impacts, alternatives, and mitigation measures that should be considered in the analysis of the right of way amendment.

A scoping meeting for the Modified Blythe Solar Power Project will be held on Tuesday, September 17, 2013, from 6:00 p.m. to 8:00 p.m. in the Community Room at Blythe City Hall, 235 N. Broadway, Blythe, California 92225.

Further details on the proposed BSPP project can be found at the following website: <http://www.blm.gov/ca/st/en/fo/cdd.html>. For information contact Frank McMenimen (760) 833-7150 or e-mail fmcmenimen@ca.blm.gov.

--BLM--

California Desert District Office 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553

APPENDIX B

Comments Received During Scoping Period



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

AUG 19 2013

RECEIVED
13 SEP 24 PM 12:15
BLM SPRINGFIELD OFFICE
RIVERSIDE COUNTY

Frank McMenimen, Project Manager
BLM Palm Springs Field Office
1201 Bird Center Drive
Palm Springs, CA 92262-8001

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the Blythe Solar Power Project, Riverside County, CA

Dear Mr. McMenimen:

The U.S. Environmental Protection Agency has reviewed the August 30, 2013 Notice of Intent to prepare an Environmental Impact Statement for the proposed Blythe Solar Power Project in Riverside County, California. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

On December 11, 2009, the EPA submitted scoping comments on the Blythe Solar Power Plant, initially proposed as a 1,000 megawatt parabolic trough facility. The EPA also reviewed and prepared comments on the Draft Environmental Impact Statement and the Final Environmental Impact Statement for the Blythe Solar Power Project on July 12, 2010 and September 20, 2010, respectively. The EPA rated the DEIS as *Environmental Concerns - Insufficient Information* (EC-2) due to concerns about potential impacts to aquatic and biological resources, and the effectiveness of proposed mitigation measures. The 2010 FEIS addressed some of our concerns, but did not provide sufficient information on drainage plans or groundwater mitigation measures. We recommended that the Bureau of Land Management consider adopting the Reduced Acreage Alternative, which would reduce the project footprint and size, but allow for greater protection of resources. The BLM signed the Record of Decision approving the 1,000 MW Blythe Solar Power Project in October 2010.

The ROW grant was originally issued to Palo Verde Solar I, LLC, a subsidiary of Solar Millennium, which filed for Bankruptcy in April 2012. NextEra Blythe Solar Energy Center, LLC purchased the un-built Blythe project as part of the bankruptcy process. NextEra has applied to the BLM to amend the approved ROW grant by reducing the overall acreage of the project from 6,831 acres to 4,138 acres, and constructing a 485 MW photo-voltaic facility instead of the 1,000 MW parabolic trough facility. It is our understanding that the California Desert Conservation Area Plan will not need to be re-amended.

To assist in the scoping process, we have identified several issues for your attention in the preparation of the DEIS. We are most concerned about direct and cumulative impacts to air quality and aquatic and biological resources. Since cumulative impacts often occur at the landscape or regional level, we are particularly concerned about the impacts associated with the influx of utility-scale renewable energy projects in the Mojave Desert.

Further, as the proposed project is located within the Desert Renewable Energy Conservation Plan study area and is specifically identified in the Final Programmatic EIS for Solar Energy Development, we

believe it is important that the DEIS discuss how the proposed project will demonstrate consistency with both of these regional programmatic efforts.

We appreciate the opportunity to review this NOI and are available to discuss our comments. Please send one hard copy of the DEIS and one CD ROM copy to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3545 or contact Anne Ardillo, the lead reviewer for this project. Anne can be reached at 415-947-4257 or ardillo.anne@epa.gov.

Sincerely,



Ann McPherson
Environmental Review Office
Communities and Ecosystems Division

Enclosure: EPA's Detailed Comments

US EPA DETAILED COMMENTS ON THE NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT STATEMENT, FOR THE PROPOSED BLYTHE SOLAR POWER PROJECT, RIVERSIDE COUNTY, CALIFORNIA, SEPTEMBER 19, 2013

Purpose and Need

The Draft Environmental Impact Statement should clearly identify the underlying purpose and need to which the Bureau of Land Management is responding in proposing the alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

Recommendation:

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The DEIS should discuss the proposed project in the context of the larger energy market that this project would serve and discuss how the project will assist the state in meeting its renewable energy portfolio standards and goals.

Alternatives Analysis

The National Environmental Policy Act requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of alternatives will include options for avoiding significant environmental impacts. The DEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail. A range of reasonable alternatives should include alternative sites and technologies; alternatives with reduced acreage, reduced megawatts, or modified footprints; as well as alternatives that identify and avoid environmentally sensitive areas or areas with potential use conflicts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (low, medium, and high).

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of pristine desert impacted, tons per year of emissions produced).

Recommendations:

The DEIS should describe how each alternative was developed, how it addresses each project objective, and how it will be implemented. The alternatives analysis should include a discussion of a reduced acreage, reduced MW and modified footprint alternatives, as well as alternative sites and generating technologies, including different types of solar technologies, and describe the benefits associated with the proposed technology.

The DEIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The EPA recommends that the DEIS identify and analyze an *environmentally preferred alternative*. This alternative should consider options such as downsizing the proposed project

within the project area and/or relocating sections/components of the project to other areas, including private land, to avoid or reduce environmental impacts.

The EPA strongly encourages BLM and other interested parties to pursue the siting of renewable energy projects on disturbed, degraded, and contaminated sites, including fallow or abandoned agricultural lands before considering large tracts of undisturbed public lands.

The EPA recommends consideration of a desert or ephemeral wash avoidance alternative for full evaluation in the DEIS.

Water Resources

Water Supply and Water Quality

In the September 20, 2010 FEIS comment letter, EPA expressed concerns about mitigation concerning groundwater impacts in the Palo Verde Basin region. We recommended that a detailed plan be completed so as to reduce risk from inducing inflow, given that Colorado River water is already fully appropriated and other large solar projects that propose to withdraw groundwater are located in the same groundwater basin. Photo-voltaic electrical generation facilities generally need much less water for operations than solar thermal plants. If groundwater will be used for construction or operations, the potentially-affected groundwater basin should be identified. The DEIS should also identify any potential for subsidence in conjunction with groundwater use.

Recommendations:

The DEIS should include:

- A discussion of the amount of water needed for the construction and operation of the proposed PV electrical generation facility and where this water will be obtained.
- A discussion of availability of groundwater within the basin and annual recharge rates. A description of the water right permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated.
- A discussion of the potential effects of groundwater use on other water users and natural resources, including springs, open water bodies, and biological resources.
- A discussion of reasonably foreseeable direct, indirect, and cumulative impacts to groundwater supply within the hydrographic basin, including impacts from other large-scale solar installations that have also been proposed.
- An analysis of different types of technology that can be used to minimize or recycle water.
- A discussion of whether it would be feasible to use other sources of water, including potable water, irrigation canal water, wastewater or deep-aquifer water.
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

The DEIS should address the potential effects of project discharges, if any, on surface water quality. Specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed. If the facility is a zero discharge facility, the DEIS should disclose the amount of process water that would be disposed of onsite and explain methods of onsite containment.

The DEIS should include a description of all water conservation measures that will be implemented to reduce water demands. Project designs should maximize conservation measures such as appropriate use or recycled water for landscaping and industry, xeric landscaping and water conservation education.

The DEIS should describe water reliability for the proposed project and clarify how existing and/or proposed sources may be affected by climate change. At a minimum, the EPA expects a qualitative discussion of impacts to water supply and the adaptability of the project to these changes.

Clean Water Act Section 404

While reviewing the August 2010 FEIS for the Blythe Solar Power Project, EPA learned that the US Army Corps of Engineers determined that the project site does not support water resources meeting the definition of Waters of the United States, and that a CWA permit will not be required.

Recommendation:

Clarify whether the previous determination regarding Waters of the U.S. is still valid for the new project. Include the appropriate USACE jurisdictional determination within the document. If the new project site does include Waters of the U.S., please refer to our previous scoping comments for the original Blythe project, as well as our comments on the DEIS, and FEIS for that project.

Drainages, Ephemeral Washes, and Floodplains

The DEIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations, and identify whether any components of the proposed project are within a 50 or 100-year floodplain. The DEIS should consider the upstream and downstream reach of waters and their importance in this landscape. Natural washes perform a diversity of hydrologic, biochemical, and geochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions.

Resources in the desert are particularly vulnerable to utility-scale solar energy development. These resources are being cumulatively impacted by the numerous large-scale solar development projects being proposed in the desert. The potential damage that could result from disturbance of such washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems, including adequate capacity for flood control, energy dissipation and sediment movement, as well as impacts to valuable habitat for desert species. For these reasons, EPA recommends that a desert or ephemeral wash avoidance alternative be created.

Summer monsoon events have caused damage to nearby solar project projects under construction including the Genesis Solar Energy (July 2012) and the Desert Sunlight project (August 2013). The proposed project is located on an alluvial fan where flash flooding and mass erosion could cause significant impacts. The DEIS should describe the design features for the proposed project that will be

employed, during both construction and operation phases, to ensure that similar events will not result in damage or alteration to the site hydrology and downstream areas.

Recommendations:

Characterize the functions of any aquatic features that could be affected by the proposed project, including those determined not to constitute waters of the U.S., and describe how the proponent will avoid, minimize and mitigate such impacts.

Develop a desert or ephemeral wash avoidance alternative for full evaluation in the DEIS.

To avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels and local scour), the EPA recommends:

- Avoid placement of support structures in washes;
- Utilize existing natural drainage channels on site and more natural features, such as earthen berms or channels, rather than concrete-lined channels;
- Commit to the use of natural washes, in their present location and natural form and including adequate natural buffers, for flood control to the maximum extent practicable;
- Minimize the number of road crossings over washes and designing necessary crossings to provide adequate flow-through during storm events; and
- Avoid complete clearing and grading of the site by evaluating the mounting of PV panels at sufficient height above ground to maintain natural vegetation and reduce impacts to drainages.

Discuss the availability of sufficient compensation lands within the project's watershed to replace desert wash functions lost on the project site.

In the September 20, 2010 FEIS comment letter, EPA recommended that drainage reports and plans include designs to minimize impacts to habitat downstream. Mitigation commitments should be structured to include adaptive management in order to minimize the possibility of mitigation failure. The DEIS should include the response to be taken by BLM if a substantial mitigation failure is detected. This could include conditioning the right-of-way approval to require the applicant to restore any severely impacted watersheds that may result from mitigation failure.

Construction Stormwater Discharge Permit

The California State Water Resources Control board requires owner/operators to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity if the project will disturb more than one acre of soil. Given the disturbance area for this project, California State Water Resources Control Board General Permit associated with construction activity Construction General Permit Order 2009-0009-DWQ would likely be required. Additionally, a Stormwater Pollution Prevention Plan, that includes erosion control measures, would need to be generated for the project and implemented on-site.

The SWPPP would include the elements described in the Construction General Permit, including a site map(s) showing the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP also would list Best Management Practices, including

erosion control BMPs that would be used to protect stormwater runoff, and include a description of required monitoring programs.

Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Guidance from other documents, such as the EPA document entitled "Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites" also could be used in the development of the SWPPP.

Recommendation:

The applicant should determine if they need a California State Water Resources Control Board Construction General Permit. If such a permit is required, include a description of the proposed stormwater pollution control and mitigation measures in the DEIS.

Biological Resources and Habitat

The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the federal or state Endangered Species Act. For this project, EPA is particularly concerned regarding potential impacts to desert tortoise, desert kit fox, burrowing owls, Nelson's bighorn sheep, migratory birds and raptors.

We also recommend that the Final EIS include a discussion of how the proposed action would comply with Endangered Species Act (ESA) requirements, including any necessary ESA Section 7 consultation efforts with the USFWS regarding potential impacts to the desert tortoise. We recommend that any relevant documents associated with the ESA Section 7 consultation process, including any Biological Assessments and Biological Opinions, be summarized and included in an appendix in the Final EIS.

Recommendations:

Discuss how the proposed action would comply with ESA requirements. Provide an update on the status of ESA Section 7 consultation efforts with the U.S. Fish and Wildlife Service. Summarize documents associated with the ESA Section 7 consultation process, including Biological Assessments and Biological Opinions.

We also recommend that BLM coordinate across field offices and with the FWS and California Department of Fish and Wildlife to ensure that current and consistent surveying, monitoring, and reporting protocols are applied in protection and mitigation efforts.

Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species.
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area.
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

If the applicant is required to acquire compensation lands, the location(s) and management plans for these lands should be discussed in the DEIS. In light of the numerous projects proposed in the eastern Riverside County area, available land to adequately compensate for environmental impacts to resources such as state jurisdictional waters, desert dry wash woodlands, and sensitive biological resources may serve as a limiting factor for development.

Recommendations:

Incorporate, into the DEIS, information on the compensatory mitigation proposals (including quantification of acreages, estimates of species protected, costs to acquire compensatory lands, etc.) for unavoidable impacts to waters of the State and biological resources such as desert tortoise.

Identify compensatory mitigation lands or quantify, in the DEIS, available lands for compensatory habitat mitigation for this project, as well as reasonably foreseeable projects in the eastern Riverside County area. Specify, in the DEIS, provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity.

Incorporate, into the DEIS, mitigation, monitoring, and reporting measures that result from consultation with the USFWS and CDFW, and that incorporate lessons learned from other solar projects and recently released guidance to avoid and minimize adverse effects to sensitive biological resources.

Discuss mitigation ratios for tortoise habitat and how these relate to the mitigation ratios recommended by other agencies, as well as how they relate to mitigation ratios used for other renewable energy projects in California and Nevada.

The DEIS should describe the potential for habitat fragmentation and obstructions for wildlife movement from the construction of this project and other utility scale renewable energy projects in the eastern Riverside County area.

Discuss the need for monitoring, mitigation, and if applicable, translocation management plans for the sensitive biological resources, approved by the BLM and the biological resource management agencies. Plans that should be discussed within the DEIS may include: an Avian Protection Plan; a Raven Monitoring, Management, and Control Plan; Burrowing Owl Mitigation, Monitoring and Translocation Plan; Desert Tortoise Relocation/Translocation Plan; Desert Tortoise Compensatory Mitigation Plan; and Special – Status Plant Impact Avoidance and Mitigation Plan.

The DEIS should include assurances that the design of the transmission line would be in compliance with current standards and practices that reduce the potential for raptor fatalities and injuries. The commonly referenced source of such design practices is found within the Avian Power Line Interaction Committee documents: *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006* manual and *Mitigating Bird Collisions with Power Lines: The State of the Art in 1994*. Also include a requirement for an Avian Protection Plan to be developed using the 2005 Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service Avian Protection Plan Guidelines.

The EPA is also concerned about the potential impact of construction, installation, and maintenance activities (deep trenching, grading, filling, and fencing) on habitat. The DEIS should describe the extent of these activities and the associated impacts on habitat and threatened and endangered species. We encourage habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species.

Recommendations:

The DEIS should describe the extent of potential impacts from construction, installation, and maintenance activities.

The DEIS should indicate the location of important wildlife habitat areas. The DEIS should describe what measures will be taken to protect important wildlife habitat areas and to preserve linkages between them.

The DEIS should provide detailed information on any proposed fencing design and placement, and its potential effects on drainage systems on the project site. Fencing proposed for this project should meet appropriate hydrologic, wildlife protection and movement, and security performance standards. Those standards should be described in the DEIS.

Nearby photovoltaic solar energy projects, including Desert Sunlight Solar and Genesis, have been experiencing unexpected bird fatalities even during construction. It is possible that birds are mistaking the PV panels for water, but information is preliminary. We understand that the FWS is just starting to gather information for recommendations to reduce mortality.

Recommendations:

Contact the U.S. Fish and Wildlife Service to determine if there are any appropriate adaptive management measures that could be implemented to respond to bird kills including developing an Avian Protection Plan.

The FWS may request that developers apply for a SPUT permit (special purpose utility permit) that will allow developers to collect dead bird carcasses on the site for the purposes of data collection and research. We recommend consulting with FWS on this issue to determine whether obtaining a SPUT permit is appropriate.

Invasive Species

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. If the proposed project will entail new landscaping, the DEIS should describe how the project will meet the requirements of Executive Order 13112.

Recommendation:

The DEIS should include an invasive plant management plan to monitor and control noxious weeds.

Cumulative and Indirect Impacts

The cumulative impacts analysis should identify how resources, ecosystems, and communities in the vicinity of the project have already been, or will be, affected by past, present, or future activities in the project area. These resources should be characterized in terms of their response to change and capacity to withstand stresses. Trends data should be used to establish a baseline for the affected resources, to evaluate the significance of historical degradation, and to predict the environmental effects of the project components.

For the cumulative impacts assessment, we recommend focusing on resources of concern or resources that are “at risk” and/or are significantly impacted by the proposed project, before mitigation. For this project, the BLM should conduct a thorough assessment of the cumulative impacts to aquatic and biological resources, including impacts to desert tortoise, especially in the context of the renewable energy developments occurring and proposed in the eastern Riverside County area. As mentioned, cumulative impacts to desert washes and ecosystems are occurring and will continue to occur from multiple large solar installations in the desert, therefore cumulative impacts to this resource should be thoroughly discussed for this project as well.

The EPA supports a regional assessment of the potential cumulative effects of other projects in the eastern Riverside County to a range of resources, including aquatic, biological, and cultural resources. These findings should help inform current and future development proposed in the region.

The EPA assisted in the preparation of a guidance document for assessing cumulative impacts in California that we find to be very useful. While this guidance was prepared for transportation projects in California, the principles and the 8-step process outlined therein can be applied to other types of projects and offers a systematic way to analyze cumulative impacts for a project. The guidance is available at: http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm. In accordance with this guidance, the EPA recommends that the DEIS identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the DEIS should:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- When cumulative impacts are identified for a resource, mitigation should be proposed.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify opportunities to avoid and minimize impacts, including working with other entities.

Recommendations:

The DEIS should consider the cumulative impacts associated with multiple renewable energy and other development projects proposed in the eastern Riverside County area and the potential impacts on various resources including: water supply, endangered species, and habitat.

As an indirect result of providing additional power, it can be anticipated that these projects will allow for development and population growth to occur in those areas that receive the generated electricity.

Recommendation:

The DEIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, its likely location, and the biological and environmental resources at risk.

Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. On December 7, 2009, the EPA determined that emissions of GHGs contribute to air pollution that “endangers public health and welfare” within the meaning of the Clean Air Act. One report indicates that observed changes in temperature, sea level, precipitation regime, fire frequency, and agricultural and ecological systems reveal that California is already experiencing the measurable effects of climate change¹. The report indicates that climate change could result in the following changes in California: poor air quality; more severe heat; increased wildfires; shifting vegetation; declining forest productivity; decreased spring snowpack; water shortages; a potential reduction in hydropower; a loss in winter recreation; agricultural damages from heat, pests, pathogens, and weeds; and rising sea levels resulting in shrinking beaches and increased coastal floods.

Recommendations:

The DEIS should consider how climate change could potentially influence the proposed project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

The DEIS should quantify and disclose the anticipated climate change *benefits* of solar energy. We suggest quantifying greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear and compiling and comparing these values.

Air Quality

The DEIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards, criteria pollutant nonattainment areas, and potential air quality impacts of the proposed projects (including cumulative and indirect impacts). Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

¹ Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071.

The DEIS should describe and estimate air emissions from potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. EPA recommends an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics).

Recommendations:

- *Existing Conditions* – The DEIS should provide a detailed discussion of ambient air conditions, National Ambient Air Quality Standards, and criteria pollutant nonattainment areas in all areas considered for solar development.
- *Quantify Emissions* – The DEIS should estimate emissions of criteria pollutants from the proposed projects and discuss the timeframe for release of these emissions over the lifespan of the projects. The DEIS should describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions.
- *Specify Emission Sources* – The DEIS should specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
- *Construction Emissions Mitigation Plan* – The DEIS should include a draft Construction Emissions Mitigation Plan and ultimately adopt this plan in the Record of Decision. In addition to all applicable local, state, or federal requirements, we recommend the following control measures (Fugitive Dust, Mobile and Stationary Source and Administrative) be included in the Construction Emissions Mitigation Plan in order to reduce impacts associated with emissions of particulate matter and other toxics from construction-related activities:
- *Fugitive Dust Source Controls:* The DEIS should identify the need for a Fugitive Dust Control Plan to reduce Particulate Matter 10 and Fine Particulate Matter 2.5 emissions during construction and operations. We recommend that the plan include these general commitments:
 - Stabilize heavily used unpaved construction roads with a non-toxic soil stabilizer or soil weighting agent that will not result in loss of vegetation, or increase other environmental impacts.
 - During grading use water, as necessary, on disturbed areas in construction sites to control visible plumes.
 - Vehicle Speed
 - Limit speeds to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
 - Limit speeds to 10 miles per hour or less on unpaved areas within construction sites on unstabilized (and unpaved) roads.
 - Post visible speed limit signs at construction site entrances.
 - Inspect and wash construction equipment vehicle tires, as necessary, so they are free of dirt before entering paved roadways, if applicable.
 - Provide gravel ramps of at least 20 feet in length at tire washing/cleaning stations, and ensure construction vehicles exit construction sites through treated entrance

roadways, unless an alternative route has been approved by appropriate lead agencies, if applicable.

- Use sandbags or equivalent effective measures to prevent run-off to roadways in construction areas adjacent to paved roadways. Ensure consistency with the project's Storm Water Pollution Prevention Plan, if such a plan is required for the project
 - Sweep the first 500 feet of paved roads exiting construction sites, other unpaved roads en route from the construction site, or construction staging areas whenever dirt or runoff from construction activity is visible on paved roads, or at least twice daily (less during periods of precipitation).
 - Stabilize disturbed soils (after active construction activities are completed) with a non-toxic soil stabilizer, soil weighting agent, or other approved soil stabilizing method.
 - Cover or treat soil storage piles with appropriate dust suppressant compounds and disturbed areas that remain inactive for longer than 10 days. Provide vehicles (used to transport solid bulk material on public roadways and that have potential to cause visible emissions) with covers. Alternatively, sufficiently wet and load materials onto the trucks in a manner to provide at least one foot of freeboard.
 - Use wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) where soils are disturbed in construction, access and maintenance routes, and materials stock pile areas. Keep related windbreaks in place until the soil is stabilized or permanently covered with vegetation.
- *Mobile and Stationary Source Controls:*
 - If practicable, lease new, clean equipment meeting the most stringent of applicable Federal² or State Standards³. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible⁴.
 - Where Tier 4 engines are not available, use construction diesel engines with a rating of 50 hp or higher that meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines⁵, unless such engines are not available.
 - Where Tier 3 engine is not available for off-road equipment larger than 100 hp, use a Tier 2 engine, or an engine equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides and diesel particulate matter to no more than Tier 2 levels.
 - Consider using electric vehicles, natural gas, biodiesel, or other alternative fuels during construction and operation phases to reduce the project's criteria and greenhouse gas emissions.
 - Plan construction scheduling to minimize vehicle trips.
 - Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections.

² EPA's website for nonroad mobile sources is <http://www.epa.gov/nonroad/>.

³ For California, see ARB emissions standards, see: <http://www.arb.ca.gov/msprog/offroad/offroad.htm>.

⁴ Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and ≥ 750 hp 2011- 2015).

⁵ as specified in California Code of Regulations, Title 13, section 2423(b)(1)

- Maintain and tune engines per manufacturer's specifications to perform at CARB and/or EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed.
- *Administrative controls:*
 - Develop a construction traffic and parking management plan that maintains traffic flow and plan construction to minimize vehicle trips.
 - Identify any sensitive receptors in the project area, such as children, elderly, and infirmed, and specify the means by which you will minimize impacts to these populations (e.g. locate construction equipment and staging zones away from sensitive receptors and building air intakes).
 - Include provisions for monitoring fugitive dust in the fugitive dust control plan and initiate increased mitigation measures to abate any visible dust plumes.

Public Health and Safety – Valley Fever

Coccidioidomycosis, (kok-sid-oy-doh-my-KOH-sis), or Valley Fever, is a fungal infection that is almost always acquired from the environment via the inhalation of fungal spores. It can affect humans, many species of mammals and some reptiles.⁶ The fungus, *Coccidioides*, is endemic (native and common) in the soil of the southwestern United States, Mexico, and parts of Central and South America.

Coccidioides can live for long periods of time in soil under harsh environmental conditions including heat, cold, and drought.⁷ *Coccidioides* can be released into the air when soil containing the fungus is disturbed, either by strong winds or activities such as farming or construction. Distribution of the fungus is typically patchy, but in some "hot spots," up to 70% of the human population has been infected.

The number of reported Valley Fever cases in the U.S. has risen from less than 5,000 in 2001 to more than 20,000 cases in 2011.⁸ An estimated 150,000 more cases go undiagnosed every year. The majority of reported cases are located in Arizona and California.⁹ The reason for the recent increase in cases, however, is unclear. Dust storms in endemic areas are often followed by outbreaks of the disease. If the dust storms are severe, the fungal spores can be carried outside the endemic area into neighboring counties, where outbreaks follow.¹⁰

According to the Centers for Disease Control and Prevention, workers engaged in soil-disturbing activities in endemic areas should be considered at risk for the disease.¹¹ Occupational groups at risk include farmers, agricultural workers, construction workers and archaeologists. Some groups of people appear to be at increased risk for disseminated disease and can become seriously ill when infected. People at risk for severe disease include those with weakened immune systems, persons with cancer or

⁶ Coccidioidomycosis, Technical Fact Sheet, The Center for Food Security and Public Health, 2010. Accessed on June 12, 2013, from <http://www.cfsph.iastate.edu/Factsheets/pdfs/coccidioidomycosis.pdf>

⁷ Coccidioidomycosis Fact Sheet, California Department of Public Health. Accessed on June 12, 2013, from <http://www.cdph.ca.gov/HealthInfo/discond/Pages/Coccidioidomycosis.aspx>.

⁸ Centers for Disease Control and Prevention. December 2012. Fungal pneumonia: a silent epidemic Coccidioidomycosis (valley fever) Fact Sheet. Accessed on June 12, 2013, from <http://www.cdc.gov/fungal/pdf/cocci-fact-sheet-sw-us-508c.pdf>.

⁹ Centers for Disease Control and Prevention. Increase in Reported Coccidioidomycosis – United States, 1998-2011. MMWR 2013;62: 217-221. Accessed on June 12, 2013, from <http://www.cdc.gov/mmwr/pdf/wk/mm6212.pdf>.

¹⁰ Pappagianis, D. & H. Einstein. 1978. Tempest from Tehachapi takes toll on *Coccidioides immitis* conveyed aloft and afar. West J. Med. 129: 527-530.

¹¹ Coccidioidomycosis. Technical Information. 2008 Centers for Disease Control and Prevention.

who are on chemotherapy, or persons who are HIV-infected. Also at higher risk for serious illness are the elderly, persons of African or Filipino descent, and women in the third trimester of pregnancy.

Recommendations:

The EPA recommends that the DEIS assess potential exposures to the fungus, *Coccidioides*, and susceptibilities of workers and nearby residents to Valley Fever due to soil-disturbing activities of the project.

The Environmental Awareness Program for the orkers should be provided with training on the health hazards of Valley Fever including: *Coccidioides* infection in the project area and surrounding region. Provide local public health officials with a schedule of project activities that disturb soil.

Hazardous Materials/Hazardous Waste/Solid Waste

The DEIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the proposed facility. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less toxic materials should be evaluated as mitigation since such processes could reduce the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

PV Production/Recycling

PV production can address the full product life cycle, from raw material sourcing through end of life collection and reuse or recycling. PV companies can minimize their environmental impacts during raw material extraction and minimize the amount of rare materials used in the product. PV manufacturing facilities exist that are zero waste and have no air or water emissions. PV companies can facilitate future material recovery for reuse or recycling. Several solar companies have developed approaches to recycling solar modules that enable treatment and processing of PV module components into new modules or other projects. Solar companies can facilitate collection and recycling through buy-back programs or collection and recycling guarantees. Several companies provide recycling programs that pay all packaging, transportation, and recycling costs.

Recommendations:

EPA recommends that the proponent strive to address the full product life cycle by sourcing PV components from a company that: 1) minimizes environmental impacts during raw material extraction; 2) manufactures PV panels in a zero waste facility; 3) provides future PV disassembly for material recovery for reuse and recycling; and 4) minimizes the carbon footprint associated with the manufacture and transport of PV panels.

Project Decommissioning, Site Restoration and Financial Assurance

Desert ecosystems have evolved over millennia to withstand severe conditions. Decommissioning and site restoration in an arid environment may take much longer and require more extensive intervention than in a more temperate region. For the eastern Colorado Desert, sufficient moisture for regeneration is

usually only available a couple of months per year. Desert ecosystems may take many years to recover even with active intervention. Disturbances can further slow this process and restoration has been found to be problematic at other sites in arid ecosystems with large-scale disturbance, including open-pit mines. The EPA recommends that the site restoration planning take into account the uncertainty and harshness of the eastern Colorado Desert climate and include monitoring of revegetation progress for at least ten years to ensure that the effort is successful.

Recommendations:

The EPA recommends that the DEIS include a requirement for a decommissioning and site restoration plan. The plan should include: 1) cost estimates – including a requirement for the project owner to secure a performance bond, surety bond, letter of credit, corporate guarantee, or other form of financial assurance adequate to cover the cost of decommissioning and effective restoration; 2) time allotted to complete the decommissioning/restoration; 3) description of the structures, facilities, foundations to be removed; and 4) description of restoration measures including recontouring the surface and revegetation to a condition reasonably similar to the original condition.

Coordination with Tribal Governments

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:

The DEIS should describe the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

National Historic Preservation Act and Executive Order 13007

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act. Historic properties under the NHPA are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer. Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site. Southwest tribes have expressed continuing concerns about impacts from utility-scale solar projects to Native American sacred sites, culture and tradition.

Recommendation:

The DEIS should address the existence of Indian sacred sites in the project areas. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how the BLM will avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist. The DEIS should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.

Environmental Justice and Impacted Communities

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994) and the more recent Interagency Memorandum of Understanding on Environmental Justice and Executive Order 12898 (August 4, 2011) direct federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process. Guidance¹² by CEQ clarifies the terms low-income and minority population (which includes Native Americans) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

Recommendations:

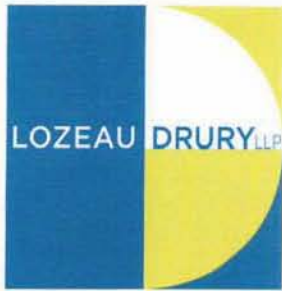
The DEIS should include an evaluation of environmental justice populations within the geographic scope of the projects. If such populations exist, the DEIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the projects impact on minority and low-income populations should reflect coordination with those affected populations.

The DEIS should describe outreach conducted to all other communities that could be affected by the project, since rural communities may be among the most vulnerable to health risks associated with the project.

Coordination with Land Use Planning Activities

The DEIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal or local land use plans, policies and controls in the project areas. The term "land use plans" includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in a written form (CEQ's Forty Questions, #23b).

¹² Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.



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September 16, 2013

ATTN: Frank McMenimen, Project Manager
BLM Palm Springs Field Office
1201 Bird Center Drive
Palm Springs, CA 92262-8001
fmcmenimen@blm.gov

Re: NEPA Scoping Comment: Blythe Solar Power Project (CACA 48811)

Dear Mr. McMenimen:

I am writing on behalf of the Laborers International Union of North America, Local Union 1184 and its members living in Riverside County ("LiUNA") regarding the Blythe Solar Power Project (CACA 48811), including all actions referring or related to the development of a 485 megawatt (MW) solar photovoltaic (PV) project located within the Palo Verde Area Plan of Riverside County, 8 miles west of Blythe and 3 miles north of Interstate 10. The project will consist of four units developed in four phases (the first three to generate approximately 125 MW each, and the fourth to generate approximately 110 MW), as well as associated facilities and a 230 kV generation-tie (gen-tie) line to connect the solar plant to Southern California Edison's Colorado River Substation (collectively, "Project").

LiUNA hereby requests and urges the Bureau of Land Management ("BLM") to fully comply with the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321 et seq., in all aspects of the Project, including but not limited to, preparation and consideration of any and all NEPA documents prepared for the Project, including the Draft Environmental Impact Statement ("EIS"), Final EIS, and any other NEPA documents prepared for the Project, responses to any and all comments submitted by responsible agencies, members of the public, or others on the Project, and consideration of any and all applications for licenses, permits, or any other notices or approvals sought for the Project.

LiUNA expressly reserves the right to submit additional comments on the Project in conjunction with both the Draft EIS and Final EIS for the Project or any other future actions taken with regard to the Project.

Please call should you have any questions. Thank you for your attention to this matter.

Sincerely,

Richard Drury
Cathy Lee
Lozeau | Drury LLP



Basin and Range Watch

September 26, 2013,

To: Bureau of Land Management
Palm Springs - South Coast Field Office
1201 Bird Center Drive
Palm Springs, California 92262

CAPSSolarBlythe@blm.gov

Subject: Scoping Comments on the Blythe Solar Power Project (CACA 48811)

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open spaces. We have visited the site of the proposed Blythe Solar Project site on several occasions and believe it would damage the natural and cultural resources of the area on both a direct a cumulative level.

Purpose and Need: The Purpose and Need Statement should incorporate a need to protect the natural and cultural resources that are located on the site. The statement should define the cultural importance of the site to local native people. The Statement should identify the ecological importance of the microphyll woodlands that occur on site. The statement should recognize the impacts this project would have to Visual Resources, wildlife resources, hydrologic resources, cultural resources, air quality and environmental justice.

The goals of Section 4 in Secretarial Order 3283 clearly state a need for environmental responsibility: *"the permitting of **environmentally responsible** wind, solar, biomass, and geothermal operations and electrical transmission facilities on the public lands;* Even the reduced configuration of the Blythe Solar Energy Project in its proposed location would be inconsistent with the Best Management Practices concerning the National Environmental Policy Act, the Endangered Species Act, and the Federal Lands Management Policy Act, etc and should not be

considered “environmentally responsible”. Mitigation for recently approved large solar projects has often been unsuccessful. The first Blythe Solar project managed to bulldoze a number of access roads on the site before going broke. The dust mitigation for just the new roads was inadequate. (see photos in Air Quality section)

The Federal Lands Policy Management Act (FLPMA) (section 10 (c) states that “*public lands are to be managed for multiple use that takes into account the long term needs of future generations for renewable and non-renewable resources.*” The Blythe Solar Project site would take up over 6 square miles. Public land access would be extremely limited and other land use would be impaired. It would be impossible to manage these lands for multiple use when so much of the land is sacrificed for just one use. Mandates to use renewable energy can be compensated in the distributed generation alternative we have provided in these multiple use philosophy, the BLM should provide a sound, environmentally friendly alternative.

Paragraph 1.2.1.2 cites **section 211 of the Energy Policy Act of 2005**. It directs the Secretary of the Interior to approve non-hydropower renewable energy projects of at least 10,000 MW by 2015 (ten years after passage of the EPAct of 2005). The approved capacity, according to data taken on June 28, 2012 from the undated BLM website http://www.blm.gov/wo/st/en/prog/energy/renewable_energy/Renewable_Energy_Projects_Approved_to_Date.html approved capacity for these categories of renewable energy is 8,437 MW. At the current high rate of approval, the total will certainly exceed 10,000 MW by 2015, 2½ years from now. This Section does not qualify as a purpose and need for this activity.”

It is now September 2013 with additional approved megawatts from recently approved projects like the Mohave County Wind Farm in Arizona, Desert Harvest and McCoy Projects. The 10,000 MW goal has been met by now.

There is no need to create more environmental conflicts if we have met this goal.

Alternatives:

A full range of alternatives should be considered in every EIS document. That is required by NEPA.

Following the guidelines of the National Environmental Policy Act, the final EIS should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. In this section agencies shall:

- (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
- (b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.
- (c) **Include reasonable alternatives not within the jurisdiction of the lead agency.**
- (d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the proposed action or alternatives.

We would like to request that the BLM consider the following alternatives for the Blythe Solar Power Project:

Brownfields and Degraded Lands Alternative:

The US Environmental Protection Agency has identified over 15 million acres of brownfields in the United States that would be suitable for utility scale solar development. See here:

<http://www.epa.gov/oswercpa/>

<http://www.wvbrownfields.org/conferences/2010/presentations/Evans%20Paul%20-%20Jobs.pdf>

The Arizona BLM approved the "The Restoration Design Energy Project"

http://www.blm.gov/az/st/en/prog/energy/arra_solar.html (RDEP), funded by the American Recovery and Reinvestment Act of 2009 The following statement is made:

“Emphasis will be on lands that are previously disturbed, developed, or where the effects on sensitive resources would be minimized. The BLM intends to use the results of the EIS to amend its land use plans across Arizona to identify areas that are considered to be most suitable for renewable energy projects.

While these amendments will only apply to BLM-managed lands, the EIS will examine all lands in Arizona and serve as a resource to the public, policy makers, and energy planners.”

Similar objectives should be applied for the alternatives to this project.

Palo Verde Mesa Solar Project Alternative: This came up just over one year ago and we are not aware of the status of this project, but it represents a more environmentally friendly option to the Blythe Solar Project. Alternatives like this should be prioritized before public lands are forever impacted.

The Renewable Resources Group has an application with Riverside County to construct a 486 megawatt solar photovoltaic facility on 3,400 acres of land that is mostly degraded. There would be no issues with biological or cultural resources.

It is filed with the Riverside County Clerk as Environmental Impact Report No. 532, Conditional Use Permit No. 3684, Public Use Permit No. 916.

The applicant is looking for someone to build this project. Because BLM is required to consider alternatives outside of the jurisdiction of the lead agency under NEPA, we would like to request that this be considered as an alternative to protect resources on public lands.

Basin and Range Watch Preferred Alternative: We would like to request a No Action Alternative that designates conservation status to the area and makes it inappropriate for large scale energy development.

Affected Environment/Environmental Consequences:

Air Quality:

Construction activity will go on for 2 to 3 years and will degrade air quality resources.

The DEIS will need to analyze the health impacts that airborne particulates from construction dust will have on the local residents of the area. Coccidioidomycosis (Valley Fever) is a common issue that impacts desert communities when dust is stirred up.

Removal of stabilized soils and biological soil crust creates a destructive cycle of airborne particulates and erosion. As more stabilized soils are removed, blowing particulates from recently eroded areas act as abrasive catalysts that erode the remaining crusts thus resulting in more airborne particulates.

The DEIS should analyze the cumulative impacts on air quality that will result from the removal so much stabilized soil and biological soil crust.

We are concerned that industrial construction in the region will compromise the air quality to the point where not only visual resources, but public health will be impacted.

We are also concerned that Next Era will have no choice but to use more water in an already over-drafted aquifer to control the large disturbance they intend to create.

Construction should not be permitted during days of high winds. Wind speeds of 10 MPH and higher should be determining factors that limit construction. Construction should also be limited during the hottest months of the year. Evaporation rates will be greatest during the months of June, July and August.

Flash Floods:

Some of the recently approved large energy projects on public lands have experienced damage from large flood events.

Below are photos of three projects which experienced damage from flash floods. Each one of these projects was "Fast Tracked" or "Prioritized" for approval by the Interior Department. Mitigation and planning has been deferred for many of the issues that came up. These large energy projects are being built in poorly chosen locations. While these flood events are referred to as 100 Year Floods by the applicants, it is obvious that these events take place more commonly than every 100 years. Projects that span 5 square miles may sustain flood damage on a yearly basis on different parts of the site. The Blythe Solar Project will be no exception. It has significant alluvial drainages throughout the project site especially on the west side.

These three projects received significant flood damage in less than one year under construction. It makes us wonder how wise it really is to build a project in an unstable alluvial flood zone when the goal is for that project to last three decades.



^Ivanpah Solar Electric Generating System: desert tortoise exclusion fence removed by floods. July, 2011



^Flooded wind turbine construction site; Ocotillo Wind Express project Site, June 2011



Unknown leftover foam from a chemical dust suppressant was spread everywhere when the Ocotillo Wind Express project site flooded in June, 2012



^The biggest flood took place at NextEra's Genesis Project on July 31st, 2012. The close proximity to a dry lake and alluvial fans make this project location one of the poorest choices to site a large solar project.



^Genesis Solar Project flood, July 31st, 2012



^Genesis Solar Project flood, July, 2012

In August of 2013, floods damaged the Ivanpah Solar Electric Generating System, the Genesis Solar Project and the Desert Sunlight Solar Project.

Biological Resources:

Kit foxes inhabit the project site. Since a canine distemper outbreak has occurred during construction on the nearby Genesis Solar Energy Project in Chuckwalla Valley, the applicant should develop a regional Kit Fox Monitoring Plan to be able to detect and prevent the spread of disease in the local kit fox population. The applicant should monitor kit foxes in cooperation with California Department of Fish and Game and develop procedures in case kit fox mortality occurs. Hazing techniques should be reviewed and modified to not cause stress to the foxes during relocation from dens during construction, and coyote urine should not be used at all until it is tested for disease.

Yuma mountain lion potential scat was found in the desert tortoise translocation area for the McCoy Solar project site. This rare Colorado Desert subspecies of mountain lion should be monitored for any direct or indirect impacts from project construction in its habitat.

A CNDDDB record of a Gila monster in the northern McCoy Mountains indicates that Gila monsters may be present in the project area. The applicant should develop a Gila Monster Relocation Plan if any lizards are excavated during construction or encountered aboveground during rain events, as Gila monster can overheat and die if mishandled in hot weather.

Desert tortoise compensation lands should be acquired within the NECO area and as close to the Blythe Solar Energy Project as feasible to preserve similar genetic stock.

Bighorn Sheep and Burro Deer.

Bighorn sheep and burro deer are both BLM species of Special Concern.

The Blythe Solar Power Project will remove foraging, linkage and breeding habitat for desert bighorn sheep and burro deer.

site represents an important connectivity zone for both of these species. Removal of 4,100 acres of this habitat will impair long term connectivity for both species.

Bighorn biologists Dr. John Wehausen and Dr. Vern Bleich have concluded that radio telemetry studies of bighorn sheep in various southwestern deserts, including the Mojave Desert of California, have found considerable movement of these sheep between mountain ranges.... Consequently, intermountain areas of the desert floor that bighorn traverse between mountain ranges can be as important to the long-term viability of populations as are the mountain ranges themselves. Alluvial fans near steep rocky terrain can provide crucial foraging habitat for big horn sheep (Wehausen 2009)

For example, ewes at the end of gestation that need nutrients may come down from steep, rocky terrain looking for higher quality forage. They might use areas like the project site for only three weeks, but those three weeks are critical. The Palo Verde Mesa might also provide important movement corridors for deer and bighorn sheep.

“Radio telemetry studies of bighorn sheep in various southwestern deserts, including the Mojave Desert of California, have found considerable movement of these sheep between mountain ranges (Bleich et al., 1990b). This is especially true of males, but also of ewes (Bleich et al., 1996). Within individual mountain ranges, populations often are small (Table 1). Levels of inbreeding could be high in such populations, but intermountain movements provide a genetic connection with a larger metapopulation, and this will counteract potential inbreeding problems (Schwartz et al., 1986; Bleich et al., 1990b). Intermountain movements also are the source of colonization of vacant habitat, which is fundamental to metapopulation dynamics and persistence. Colonization by ewes is the slow link in this process, but has recently been documented in two Mojave Desert ranges in California (Bleich et al., 1996; Torres et al., 1996). Consequently, intermountain areas of the desert floor that bighorn traverse between mountain ranges are as important to the long term viability of populations as are the mountain ranges themselves (Schwartz et al., 1986; Bleich et al., 1990b, 1996).”

The Society for the Conservation of Big Horn Sheep notes that a pre-construction baseline of big-horn sheep use should be established, followed by intensive monitoring during construction and follow-up post construction. They advocate a 1.5 mile buffer zone from the project border to the toe of the sloping mountain areas, to help connectivity of the local population and maintain the metapopulation dynamic at work with this sheep population. A wildlife corridor is absolutely essential for a healthy and viable population and for a healthy gene pool exchange, and that the buffer zone would establish a guideline or benchmark for any future development and additional loss of habitat.

A Weed Management Plan should be prepared now for public review, and not deferred until after project approval. Sahara mustard was found in the project area and this highly invasive weed could potentially encroach on newly disturbed areas of roads and solar panel scraped areas. How will weed invasion be avoided? Will vehicle tires be washed? Will herbicides be used?

Although the project has been reconfigured to a smaller acreage, the maps indicate that it will still destroy a significant amount of microphyll. The updated project map shows the significant desert wash topography on the northern acreage of the project. (see below)



^The alluvial drainage of the McCoy Mountains is rich in microphyll habitat.

The below quote comes from the original Blythe Solar Project EIS:

"The site is located within the within the Palo Verde Mesa of the Sonoran Desert region of southeastern California, an alluvial-filled basin that is bounded by the Mojave Desert to the north and by the McCoy Mountains, Little Maria Mountains, and Big Maria Mountains to the west, northwest, and northeast, respectively, extending southwest to the Palo Verde Mountains. The Palo Verde Mesa is bounded by the Palo Verde Valley to the east, which is generally formed by flood plain deposits of the Colorado River. The unique position of the region at the junction with the Neotropic ecozone to the south contributes to the presence of a number of rare and endemic plants and vegetation communities specially adapted to this bi-modal rainfall pattern, and not found elsewhere in California. These include microphyll woodlands, palm oases, and a number of summer annuals that only germinate after a significant warm summer rain. Although the region supports numerous perennial species, including a wide variety of cacti, more than half of the region's plant species are herbaceous annuals, which reveal themselves only during years of suitable precipitation and temperature conditions."

Microphyll trees cannot be moved or transplanted. All palo verde, smoke trees and desert ironwood will be mulched or shredded in wood chippers. Some desert ironwood trees in the region are over 1,000 years old. What a waste of habitat for solar panels that would do better on rooftops!

Mitigation for destruction of microphyll can only be to buy land or enhance habitat elsewhere. The most environmentally responsible mitigation would be to select an off-site alternative for this project. Please refer to our off site alternative section for the best way to mitigate this.

Gila Woodpecker (*Melanerpes uropygialis*) and Elf Owl (*Micrathene whitneyi*):

During the proceedings for the now canceled Rio Mesa Solar Project, BrightSource Energy and the California Energy Commission located both Gila woodpeckers and elf owls on the site which is about 15 or so miles south of the proposed Blythe Solar Power Project. These individuals were located after the proceedings for the original Blythe Solar Power Project ending in 2010. The Blythe Solar Power Project site should be surveyed completely for both of these species.

The Gila woodpecker is listed as “Endangered” under the California Endangered Species Act. Gila woodpeckers can create suitable habitat in microphyll for elf owls.

Elf owls do have a historic occurrence in the region. As recently as April, 2011, elf owls were located on the site of the proposed Rio Mesa Solar Project south of Blythe, California. Historically, elf owls have been located at Corn Spring, Wiley’s Well, and they have been located at Cottonwood Springs in Joshua Tree National Park from 1946 to 1970. This included a pair of owls. Elf owls are also a California Endangered Species. Populations are believed to have declined after 1970, but since they were recently located near the site of the Rio Mesa Project, we believe that this should be a consideration. The elf owl is believed to be critically endangered in California.

Reference: The Status of the Elf Owl in California, Stephen W. Cardiff, California Department of Fish and Game, 1978.

Polarized Glare: The polarized reflection of sprawling PV facilities assumes the appearance of a large body of water. This can potentially be a death trap in the California Desert. Birds and insects can use up energy to get to water and end up dying of dehydration.

Lake Effect, Avian Slaughter:

Where do you begin here? On May 8th, 2013, a Federally Endangered Yuma clapper rail was found dead on the Desert Sunlight Solar Project, about 22 miles from the Palen Project. While the BLM and FWS will not say what the exact cause of death was, it is likely that the bird was deceived by the water like appearance of the photovoltaic panels and either collided with them or was dehydrated. This is the first Federally Endangered Species that has been killed by a large scale solar project. There are less than one thousand of these birds left in the world so when one is killed, this is a big deal.

As it turns out, several water birds have been killed at both the Desert Sunlight Project as well as the Genesis Project.

Here is the official list compiled by Rewire : <http://www.kcet.org/news/rewire/solar/water-birds-turning-up-dead-at-solar-projects-in-desert.html>

Genesis, March 13, lesser goldfinch
Genesis, March 19, lesser goldfinch
Genesis, March 28, bufflehead
Desert Sunlight, April 3 eared grebe
Desert Sunlight, April 15 surf scoter
Genesis, April 17, black-throated grey warbler
Genesis, April 17, house wren
Genesis, April 17, orange-crowned warbler
Desert Sunlight, April 18 great-tailed grackle
Desert Sunlight, Week of April 21 red breasted merganser

Genesis, April 25, barn owl injured, taken to rehab
Genesis, May 1, pied-billed grebe
Genesis, May 1, eared grebe* injured, to rehab

Desert Sunlight, May 6 double crested cormorant
 Desert Sunlight, May 8 Yuma clapper rail
 Genesis, May 8, Wilson's warbler (poss. line strike)
 Genesis, May 14, yellow-headed blackbird* injured, taken to rehab
 Genesis, May 15, hermit thrush (bulldozer)
 Genesis, May 16, Wilson's warbler
 Genesis, May 16, Townsends warbler
 Genesis, May 16, unidentified bird
 Genesis, May 22, western grebe injured, taken to rehab
 Genesis, May 22, yellow warbler
 Genesis, May 23, warbler, species unknown
 Genesis, May 24, unidentified sparrow
 Genesis, May 30, American coot
 Desert Sunlight, June 4, common loon
 Desert Sunlight, June 5, eared grebe
 Desert Sunlight, June 5, western grebe
 Desert Sunlight, June 5, western grebe live, released after consultation.
 Desert Sunlight, June 6, American coot
 Desert Sunlight, June 6, double crested cormorant
 Desert Sunlight, June 9, Common raven
 Genesis, June 10, brown pelican- injured, sent to rehab
 Desert Sunlight, June 19, hummingbird
 Genesis, July 10, brown pelican
 Desert Sunlight, July 10, brown pelican
 Desert Sunlight, July 11, brown pelican
 Desert Sunlight, July 13, brown pelican
 Desert Sunlight, July 15, black-crowned night heron

This list needs to be updated. In early September, 2013, a peregrine falcon was injured badly (burned is what they say) on the Ivanpah Project and later died in rehabilitation. The August compliance reports for the Ivanpah Solar Electric Generating System confirm 7 bird kills on the project site. The reports can be viewed here: http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200540_20130920T095831_August_2013_MCR.pdf

This is quite significant.

The Nature Conservancy has released their Mojave Desert Ecoregional Assessment. In the assessment, they discuss the impacts of polarized light pollution on birds and insects:

“Light and noise pollution associated with electrical power plants can be problematic for wildlife. Polarized light pollution from PV panels can attract aquatic insects and other species that mistake some organisms (Horvath et al. 2010). Nighttime lighting for security or other reasons may negatively impact a variety of Mojave Desert species, many of which have developed nocturnal behavior to escape the daytime heat of the desert. (*Mojave Desert Ecoregional Assessment September 2010, The Nature Conservancy of California 201 Mission Street, 4th Floor San Francisco, CA 94105*) p. 50”



^Lake effect from the Copper Mountain photovoltaic project near Boulder City, Nevada

So how will this be mitigated?

Will the solar technology be single axis tracking so panels can be turned to a non-reflective angle?

Will the surface of the solar panels be a flat texture so they will be less reflective?

Will horizontal or vertical visual “bars” be placed across solar panels to disrupt the lake effect?

Will the First Solar thin-film modules be rejected because they are too reflective?

Visual Resources:

The BLM should require KOP simulations that depict all of the visual impact scenarios. All of the most potentially visible angles of light and time of day should be considered to depict the worst case scenario.

KOP simulations should capture the “lake appearance” of reflective PV facilities. Too many simulations for solar projects only depict the panels as looking dark and solid black.

The following BLM required factors will need to be considered:

Angle of Observation. The apparent size of a project is directly related to the angle between the viewer's line-of-sight and the slope upon which the project is to take place. As this angle nears 90 degrees (vertical and horizontal), the maximum area is viewable.

Length of Time the Project Is In View. If the viewer has only a brief glimpse of the project, the contrast may not be of great concern. If, however, the project is subject to view for a long period, as from an overlook, the contrast may be very significant.

Relative Size or Scale. The contrast created by the project is directly related to its size and scale as compared to the surroundings in which it is place.

The 4,138 acre size of the project is large and will have the potential to cumulatively impact different VRM zones of different classes.

The project should be evaluated based on the highest potential VRM Zones. Those should be VRM 1 and VRM 2.

We would like to request that the following Key Observation Point simulations be included in the DIES:

- Three KOP simulations from the McCoy Mountains Wilderness Area
- Two dark sky KOP's from different locations depicting security lighting
- At least one KOP Simulation from private property
- At least one KOP simulation depicting dust plumes from the construction of the project
- At least one KOP simulation from the Big Maria Mountains Wilderness Area

Cultural Resources:

Geoglyphs and intaglios are present scattered in the stony natural desert pavement, forming a continuum of past cultural legacies with present living traditions. Local tribes and residents consider these rock alignments and geometric patterns in the stony ground to be sacred, connecting the present with the past, and they are actively cared for. In spite of the fact that these sites are still actively used by people, the Bureau of Land Management has basically determined that these sites are not significant enough to be avoided by developers. So far, two of these sites have been damaged or completely destroyed by the first development of the Blythe Solar Energy Project.

Nearly all of the sites recorded in the area as prehistoric have been described as having potential for subsurface manifestation. In addition to their individual research potential properties, the distribution of many of these sites in conjunction with other prehistoric sites recorded between Desert Center and Blythe may provide links between vestiges of the Coco-Maricopa trail system as well as clues to activities associated with transportation along that route. As such, these sites could be considered as part of a complex archaeological district that would include evidence of trade, travel, interaction among the several cultural groups associated with the area (Cahuilla, Chemehuevi, Mojave, Serrano), resource exploitation along travel routes, seasonality of habitation, and trail spurs between the primary coastal-interior route and the springs and associated rock art sites in the bordering mountain ranges.

Nextera's mitigation for cultural resources destruction for the Genesis Project has been nothing short of pathetic.

Burial sites, bones and a whole village site were destroyed because Nextera did not do adequate enough surveys. This is not acceptable.

The BLM will need to consult with the Cahuilla, Chemehuevi, Mojave, and Serrano nations to address their concerns. Many of these people feel the entire region is a "cultural site" including the view-scape, the water and the biological resources.

Conclusion:

The Blythe Solar Energy Project is yet another example of the Interior Department's short sighted vision of renewable energy. Instead of learning from past mistakes, the department is pushing more of these projects through on public lands before working out the complex mitigation issues such large disturbance footprints bring.

This is the wrong way to manage public lands and projects like this have a very large construction carbon footprint. We hope the BLM will learn that solar panels are designed to fit anywhere and this mass destruction and waste of natural and cultural resources has never been necessary.

Please select a No Action Alternative for this project.

Thank you

Kevin Emmerich

Laura Cunningham

Basin and Range Watch

P.O. Box 70

Beatty, NV 89003

**Defenders of Wildlife
Natural Resources Defense Council
Sierra Club
Audubon California
California Native Plant Society
Center for Biological Diversity**

September 26, 2013

Frank McMenimen, Project Manager
BLM Palm Springs Field Office
1201 Bird Center Drive
Palm Springs, CA 92262-8001
Email: fmcmenimen@blm.gov

Re: Scoping comments for proposed Modified Blythe Solar Power Project, Riverside County, CA (CACA-48811)

Dear Mr. McMenimen;

Thank you for the opportunity to provide scoping comments to help guide the preparation of an Environmental Impact Statement ("EIS") and Proposed Amendment to the California Desert Conservation Area ("CDCA") Plan for proposed amendments to Blythe Solar Power Project ("BSPP"). These comments are submitted on behalf of Defenders of Wildlife ("Defenders"), the Natural Resources Defense Council ("NRDC"), the Sierra Club, Audubon California and California Native Plant Society ("CNPS"), all non-profit public interest conservation organizations with offices in California as well as elsewhere in this country.

Defenders has 1.1 million members and supporters nationally, including 170,000 in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

NRDC has over 1.2 million members and online activists nationwide, including more than 250,000 in California. NRDC uses law, science and the support of its members and activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things. NRDC has worked to protect wildlands and natural values on public lands and to promote pursuit of all cost effective energy efficiency measures and sustainable energy development for many years.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters (approximately 250,000 of whom live in California) dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club's concerns encompass protecting our public lands, wildlife, air and water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

Audubon California is the state office of National Audubon Society with 150,000 members and supporters in California. Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. For more than a century, Audubon has built a legacy of conservation success by mobilizing the strength of its network of members, Chapters, Audubon Centers, state offices and dedicated professional staff to connect people with nature and the power to protect it.

The California Native Plant Society ("CNPS") is a non-profit environmental organization with nearly 10,000 members. CNPS' mission is to protect California's native plant heritage and preserve it for future generations through application of science, research, education, and conservation. CNPS works closely with decision-makers, scientists, and local planners to advocate for well-informed and environmental friendly policies, regulations, and land management practices.

The Center for Biological Diversity ("Center") is a non-profit environmental organization with over 625,000 members and online activists nationwide. At the Center we believe that the welfare of human beings is deeply linked to nature — to the existence in our world of a vast diversity of wild animals and plants. Because diversity has intrinsic value, and because its loss impoverishes society, we work to secure a future for all species, great and small, hovering on the brink of extinction. We do so through science, law and creative media, with a focus on protecting the lands, waters and climate that species need to survive. We want those who come after us to inherit a world where the wild is still alive.

Participation by Environmental Organizations in the original BSPP NEPA and Permitting Processes. Several of our organizations participated in the NEPA and permitting processes for the original BSPP. Defenders, NRDC and the Center submitted scoping comments on December 23, 2009 and comments on the Draft EIS on June 16, 2010; Sierra Club submitted comments on the Draft EIS on June 16, 2010; Defenders, NRDC, Sierra Club and The Wilderness Society filed comments on the Final EIS, Proposed Amendment to the CDCA Plan and Proposed BSPP on September 8, 2010 including a formal protest.; and the Center filed a protest to the Final EIS, Proposed Amendment to the CDCA Plan and Proposed BSPP on September 15, 2010.

Proposed Amendment to the BSPP. NextEra Energy has proposed to modify the BSPP, originally permitted as a 1,000 MW solar thermal electric generating facility located on 6,831 acres of public land located in the McCoy Wash region of eastern Riverside County, CA. The proposed

modifications would result in a facility using photovoltaic technology capable of producing up to 485 MW of electricity on 4,138 acres of public land, all within the footprint of the previously authorized project right-of-way.

Scoping Comments. Our organizations incorporate, by reference, all previously submitted comments and information in the protests on the original project including scoping, Draft EIS and Final EIS because the proposed amendments to the previously approved project affect the same lands and resources. We also submit the following scoping comments for the proposed modifications to the BSPP:

1. General. We are pleased the BLM has decided to afford the public the opportunity to submit scoping comments on the proposed modifications to the BSPP. The significant proposed amendments to the project including a change in technology provide BLM with an opportunity to resolve many of issues associated with the original project which were identified by our organizations and provided to BLM, the California Energy Commission (“CEC”) as well as the previous and current project proponent both in writing and directly in several in-person meetings. We expect BLM to take advantage of this new opportunity and resolve the significant environmental issues associated with the proposed amendments to this project that were not sufficiently addressed in permitting the original project.

2. Purpose and Need. In nearly every NEPA analysis for solar energy projects located on public land in the California Desert, BLM has inappropriately constrained the purpose and need for the proposed projects by indicating it is simply responding to an applicant’s right-of-way application for a certain sized facility in one specific location. Instead of the current purpose and need statement focusing on the BLM responding to a right of way application under Title V of FLPMA, we recommend that the purpose and need statement address the need to generate, deliver and utilize greater amounts of electrical energy derived from renewable energy sources so that dependency on carbon-based fuels is reduced while preserving the natural and cultural resources of the CDCA. In contrast, the BLM’s use of narrowly constrained purpose and need in the environmental review process in the past has led to the perception and reality that BLM gives serious consideration only to what the applicant wants, and has also resulted in an overly narrow range of alternatives being considered and analyzed, ultimately leading to serious flaws in the analysis overall, as explained further in comments in #3, below.

Unlike some other solar energy projects BLM has analyzed and permitted over the last few years, the BSPP does not have a power purchase agreement or other commercial obligations to deliver power from this project site. We raise this issue because BLM typically ties the purpose and need for a project to a power purchase agreement held by the applicant. The fact that there is no power purchase agreement for this project obviates BLM’s rationale, relied on in earlier environmental reviews, that the purpose and need for the project is to respond to the applicant’s desire for a project at a specific location and of a certain size in terms of power output and acres needed to meet the terms of a power purchase agreement.

Further, BLM has often misinterpreted the intent of Congress in the Energy Policy Act in stating in EIS's that the law "requires" BLM to approve at least 10,000 MW of renewable energy from public lands by 2015. Rather, the Act encourages the Secretary of the Interior to approve a minimum of 10,000 MW of renewable energy from the public lands by the year 2015.

3. Alternatives to the proposed project. In addition to properly defining the purpose and need of an agency action, agencies must consider a range of reasonable alternatives to the agency action in the EIS. See 42 U.S.C. § 4332(2)(E). If BLM again relies on a radically narrow scope of the project's purpose and need in this environmental review, it will impermissibly constrict the range of alternatives considered and analyzed in an EIS. See *Carmel by the Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1995). The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions." See 40 C.F.R. §§ 1502.14(a) and 1508.25(c). The purpose of this requirement is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); see also *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), *rev'd on other grounds*, 490 U.S. 332 (1989) (agency must consider alternative sites for a project).

At minimum, a reduced acreage alternative that would allow for development only within the eastern one-half of the right of way application area needs to be analyzed. Such a reduced acreage alternative was included in our issue scoping letters for the original project. This reduced acreage alternative would significantly reduce habitat loss and impacts to several species of special concern and would provide an opportunity for project expansion to degraded private lands located immediately east of the proposed project site which were referred to as the Blythe Mesa lands in the CEC's alternatives to the original proposed project. Furthermore, CEC found this alternative was reasonable and analyzed it in their Final Staff Assessment for the original project. A reduced acreage alternative limiting the amended project to the east of Black Rock Road continues to be feasible and should be analyzed

We also request that BLM analyze an alternative calling for conjunctive use of public and disturbed private lands on Blythe Mesa, a reasonable alternative considering that the project applicant has proposed the use of photovoltaic technology rather than solar thermal trough technology. PV technology is inherently more flexible relative to project shape, location and size compared to solar thermal technology.

Alternatives to the proposed project should include a range of project sizes and configurations that would generate varying amounts of electrical power, such as in increments of 20 or 50 MW, or based on project units proposed by the applicant (e.g., Unit 1, Unit 2, etc.) for the amended project. We strongly recommend that such alternatives specifically exclude the applicant's proposal to develop lands within Unit 4 which is located in the western half of the right-of-way footprint. Unit 4 (as

described in the amended project description filed with the California Energy Commission) contains numerous washes which support plant communities comprised of certain species of sensitive vegetation such as smoketree, blue palo-verde and ironwood. These washes also support another important vegetation association comprised of galleta grass, often in combination with brittlebush and other shrubs. These washes and their associated vegetation provide particularly important habitats for wildlife species in the area, such as the desert tortoise, numerous resident and migratory birds, mule deer and carnivores. Washes in this area of extensive desert pavement provide greater amounts of food, water and cover that support much of the biological diversity in the area. Regarding birds, desert washes and their associated plant species, notably smoketree, blue palo-verde and ironwood occupy less than five percent of the Lower Colorado River subsection of the Sonoran Desert but support ninety percent of its bird life.¹

BLM should also consider at least one alternative that analyzes meeting the same renewable energy goals and providing the same amount of renewable power from distributed renewable energy projects including commercial rooftops, parking lots and other distributed solar PV projects under 20 MW. Such an alternative would avoid all impacts to environmental resources on public lands.

The absence of a power purchase agreement for the project makes these above requested alternatives entirely reasonable. BLM should include our recommendations for alternatives in the EIS and analyze each of them thoroughly.

4. Conformance with Laws, Regulations and Policies.

A. Federal Land Policy and Management Act (FLPMA). FLPMA mandates that public lands: "...be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will pro-vide for outdoor or other commercial obligations to deliver power from this project site recreation and human occupancy and use;" (Sec. 102(8)).

FLPMA also addresses management of public lands within the CDCA: "the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed. (Sec. 601(a)(2)); and "the California desert environment and its resources, including certain rare and endangered species of wildlife, plants, and fishes, and numerous archeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California; (Sec. 601(a)(3)); and lastly, " It is the purpose of this section to provide for the immediate and future protection and administration of the public lands in the California desert within the

¹ Dimmitt, M.A. 2000. Biomes and communities of the Sonoran Desert region. In *A Natural History of the Sonoran Desert* (S.J. Phillips and P.W. Comus eds.). Arizona-Sonora Desert Museum Press. Tucson, Arizona: 3-18.

framework of a program of multiple use and sustained yield, and the maintenance of environmental quality. (Sec. 601(b)).

B. California Desert Conservation Area (CDCA) Plan, as amended. The proposed BSPP, as amended, is located in an area of the CDCA classified by BLM as a Limited Use Class. Limited Use Class is a key element of the CDCA Plan intended to protect sensitive, natural, scenic, ecological, and cultural resources values. Public lands designated as Limited Use Class are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” CDCA Plan at 13. While the CDCA Plan does allow for amendments to the plan to accommodate solar energy production where appropriate, the environmental review for the original BSPP shows that portions of the 4,000 acre project area contain sensitive resources that should be avoided and left intact under Limited Use Class provisions of the CDCA Plan. Such sensitive resources include habitat for the desert tortoise, American badger, desert kit fox and several species of rare and sensitive plants, in addition to the special biological resources and values concentrated in the numerous washes on the project site.

Unfortunately, the footprint of the proposed project encompasses some areas of high biological resource value although the project is located within the designated Riverside East Solar Energy Zone (SEZ). Our organizations recommended these areas be excluded from the Riverside East SEZ during development of the Programmatic Solar Energy Development Plan for Six Southwestern States (“PSEDP”) and they should also be excluded from any future project level approval. Nonetheless, BLM included these sensitive habitat areas within the SEZ and also has asserted the revision of this project is not subject to the siting and design provisions of the PSEDP. However, the criteria adopted in the PSEDP, both generally and for the Riverside East SEZ, provide many important “best practices” and criteria for siting and design of solar projects proposed on these public lands. Therefore, in developing siting, design and other measures for this specific project revision, we recommend that BLM consider and apply the measures from the PSEDP, and specifically for the Riverside East Solar Energy Zone, in crafting unique requirements for this project as a means of avoiding and mitigating adverse impacts on sensitive resources.

5. Impacts to Sensitive Lands and Resources.

A. Desert washes/sensitive plant communities/general wildlife use and migratory birds. The importance of microphyll species and those stands comprising what are described as Microphyll Woodlands (or desert dry wash woodlands) are described in a letter (see attachment) from the USFWS to the California Energy Commission on the Preliminary Staff Assessment for the formerly proposed Rio Mesa solar project. We strongly recommend that BLM utilize information contained in that letter to help guide the impact analysis, identify additional field studies and develop impact avoidance strategies for this sensitive and important public land resource.

Previous studies for solar energy projects in areas having seasonal or ephemeral streams that support microphyll species have focused attention on only the mature, higher density stands of what are called Microphyll Woodlands. Largely overlooked or dismissed in value are seasonal and ephemeral stream channels that support microphyll species but at a lower density than formal Microphyll Woodlands. These lower density stands contain microphyll species that provide similar niches that sustain biological diversity in the region and project area because of the concentrated food, water and shelter they provide.

We strongly recommend that BLM address these resources and their associated wildlife in the supplemental EIS for the amended BSPP including additional field studies, species occurrence, impact avoidance strategies and effective impact mitigation measures. We have recommended that desert washes and their sensitive vegetation communities (e.g., microphyll woodland species) be avoided in our previous comments on the BSPP and in comments on the Programmatic Solar Energy Development Plan for Six Southwestern States.

B. Migratory birds. The issue of migratory bird mortality at a photovoltaic solar project facility under construction in the Chuckwalla Valley is a new and emerging issue. Migratory bird mortality at the Desert Sunlight project has been reported based on opportunistic or casual observations. Desert Sunlight utilizes photovoltaic technology and is approximately 30% completed. Yet, migratory bird mortality is occurring there -- approximately 70 individuals from a wide range of bird families over the past year. The cause of the mortality was unknown in a majority of the cases, but some were attributed to a variety of sources including collision with solar panels, fences, pond netting, motorized vehicles and predation.

The BSPP is much closer to the Colorado River and the adjacent Palo Verde Mesa than the Desert Sunlight project and we expect migratory bird diversity and abundance to be significantly higher than at the Desert Sunlight project located in the western portion of the Chuckwalla Valley. Thus, we strongly recommend that BLM fully analyze potential impacts to migratory and resident birds for the amended BSPP, gather additional information of migratory bird diversity and abundance, and develop realistic impact avoidance requirements, impact minimization measures and, lastly, effective and lasting compensatory mitigation for impacts that can't be avoided or minimized. We consider any mortality of migratory birds a significant impact given that all migratory birds are fully protected under the Migratory Bird Treaty Act, including some given additional protection under the Bald and Golden Eagle Protection Act and the Endangered Species Act.

C. Palo Verde Mesa. The proposed project area is in an extremely unique part of the Colorado Desert known as the Palo Verde Mesa. The Palo Verde Mesa is an ancient Pleistocene terrace of the Colorado River. Water from the Colorado River washed over this area tens of thousands of years ago, leaving rounded water-worn pebbles and rocks that have created a natural stabilized soil surface. This soil surface has been in place since the

Pleistocene and disruption of this ancient stabilized surface will result in the release of dust emissions leading to significant air quality impacts; soil erosion; and uncontrollable surface water flows during summer monsoon storms. We highly recommend the BLM prohibit scraping of this ancient pebble terrace in order to avoid or minimize the serious consequences that will result and to maintain the stabilized soil surface so that the area can be more easily restored at the end of the project's life.

6. Cumulative Impacts. An in-depth cumulative effects analysis of the impact of the past, present and reasonably foreseeable activities that have and will adversely impact at-risk biological resources needs to be performed. The most effective and efficient form of mitigation is impact avoidance, which is most often associated with alternatives such as reduced project scale and alternative locations. The overall environmental quality of public lands in the Palo Verde Mesa and McCoy Wash region needs to be carefully analyzed in the cumulative impacts section of the supplemental EIS, and this analysis should include BLM's policy of maintaining proper functioning condition in all natural communities with special emphasis on communities that a) are present in small quantity, b) have a high species richness, and c) support many special status species. See Northern and Eastern Colorado Coordinated Management Plan, 2002, Section 2.3.3.

7. Identification and Application of Impact Mitigation Measures.

A. Avoidance. Mitigating the adverse impacts to sensitive lands and resources should prioritize the avoiding the impacts followed by minimizing impacts and, lastly, compensating for unavoidable impacts through off-site habitat acquisition and enhancement. As mentioned in this letter, moving the project away from the west by reducing the overall project size will avoid many of the incised washes that provide critical habitat for sensitive desert species.

B. Minimization measures. The way in which industrial-scale solar energy projects have been developed to date essentially precludes application of on-site measures that would minimize environmental impacts to biological communities. We do not consider translocation of desert tortoises off of the project site to be impact mitigation or minimization measures, by definition. Desert tortoise translocation is an unproven, experimental procedure intended only to minimize the direct mortality of animals occurring on a project site. Based on recent studies, such as the translocation performed at Fort Irwin, CA, we urge the BLM to consider desert tortoise translocation as an adverse impact associated with the project.

Avoidance of washes and other important hydrological features can reduce impacts to surface hydrology on and off site and avoid the need for significant grading or other soil disturbing activities that increase air pollution and vulnerability to flooding.

The proposed project site, being a mixture of desert pavement and incised washes, could greatly benefit from minimization measures that would reduce or eliminate the need for intensive scraping of the landscape. As mentioned above, desert pavement in the area

consists of relatively unvegetated, flat, rocky expanses interspersed with incised washes. Scraping this layer of rock from the ground's surface will have serious consequences in the form of erosion, unpredictable and destructive flow of surface water during monsoon summer rains, and dust emissions resulting from disturbance of stabilized soil surface. We urge the BLM to consider a minimization requirement that would prohibit scraping of the project area due to the serious impacts this will have.

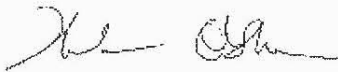
- C. Compensation. Compensation for lost habitat is typically required for solar energy projects in the CDCA. While generally beneficial, compensatory mitigation requirements associated with other solar energy projects usually falls short of offsetting project impacts because project development results in a net loss of lands and sensitive resources. Lands acquired for compensatory mitigation are typically in good ecological condition and require no enhancement, the latter of which is aimed at increasing the resource abundance to fully offset resources that would be lost due to the project. Compensatory mitigation should include at least a 3:1 acquisition to loss ratio plus sufficient habitat enhancement in the project region to fully offset resources lost.

Thank you for considering these scoping comments for the amended BSPP. Please address the issues and our requested alternatives and other recommendations in the EIS for the proposed project.

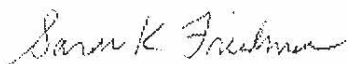
Sincerely,



Kim Delfino
Defenders of Wildlife



Helen O'Shea
Natural Resources Defense Council



Sarah Friedman
Sierra Club



Garry George
Audubon California



Greg Suba
California Native Plant Society



Ilene Anderson
Center for Biological Diversity

Attachment: USFWS letter on proposed Rio Mesa solar project



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262



In Reply Refer To:
FWS-ERIV-11B0198-13TA0078

Mr. Pierre Martinez
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California Energy Commission
1516 Ninth Street, MS-15
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DEC 19 2012

California Energy Commission

DOCKETED
11-AFC-04

TN # 68947

DEC 20 2012

Subject: Comments on the California Energy Commission's Preliminary Staff Assessment for the Proposed Rio Mesa Solar Electric Generating Facility (11-AFC-04)

Dear Mr. Martinez:

The U.S. Fish and Wildlife Service (Service) has reviewed the California Energy Commission's (CEC) Preliminary Staff Assessment (PSA) Part B, dated October 15, 2012, for the proposed BrightSource Energy, Inc. Rio Mesa Solar Electric Generating Facility. The proposed project site is located approximately 13 miles southwest of the city of Blythe and consists of two 250-megawatt (MW) (nominal) solar concentration thermal power plants situated on private land leased from the Metropolitan Water District of Southern California. The project generation-tie line, emergency and construction electrical power supply line, and primary access road would be located on public land managed by the Bureau of Land Management (BLM). Each plant would be comprised of a central concrete tower (approximately 750-feet tall) surrounded by heliostat (mirror) fields (approximately 85,000 per plant). A common facilities area servicing both power plants would include administration, control, and maintenance facilities, a water treatment facility, and a switchyard. Each 250-MW plant requires about 1,850 acres (or 2.9 square miles) of land to operate. The total area required for both plants, including the shared facilities and generation-tie line, is approximately 6,000 acres. The CEC is the lead agency deliberating issuance of a license certifying the construction, operation and maintenance, and decommissioning of the proposed Rio Mesa project.

The primary concern and mandate of the Service is the protection of fish and wildlife resources and their habitats. The Service has legal responsibility for the welfare of migratory birds, anadromous fish, and threatened and endangered animals and plants occurring in the United States. As such, we are responsible for administering the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*); the Bald and Golden Eagle Protection Act, as amended (16 U.S.C. 668); and the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712). We recognize the need for development of renewable energy and the challenge of balancing solar energy development with conservation of natural resources in the southwest. We are working with local, State, and Federal agencies involved in desert-wide regional planning to help achieve the

various State and Federal renewable energy goals and policies guiding renewable energy programs in a manner consistent with the Service's mission.

Based on our review of the PSA, we offer in the enclosed table (Enclosure) specific comments regarding potential project impacts to: (1) bald (*Haliaeetus leucocephalus*) and golden (*Aquila chrysaetos*) eagles; (2) migratory birds; (3) threatened Mojave desert tortoise (*Gopherus agassizii*), particularly the loss of occupied and suitable habitat and increased fragmentation of the limited habitats available in this region; (4) other species and ecosystem function; and (5) conservation recommendations. General comments that summarize major issues are discussed below.

General Comments

Analytical Approach

Because CEC's public workshops on this and other power tower projects have documented a lack of available data and various degrees of uncertainty about many of the potential biological effects, including their scope and magnitude, the effects analyses relied on numerous assumptions and inferences from related studies to draw conclusions. The levels of certainty associated with particular impacts, conclusions, and supporting rationale is variable and, when possible, should be identified in the PSA. Whereas the PSA currently describes many effects that "could" happen, the Final Staff Assessment (FSA) should more clearly differentiate the gradations of possibility, as to whether an impact or outcome is highly likely, probable, or possible, depending on the strength of supporting information.

Migratory Birds

The project is proposed on a major branch of the Pacific Flyway for numerous species along the Colorado River floodplain and adjoining lowlands that support a diverse habitat network of agricultural lands, State and Federal wildlife refuges, aquatic habitats, willow-cottonwood-mesquite riparian forests, and xeric riparian woodlands (known variously as desert dry wash, xeroriparian, or microphyll woodlands). These habitats support an abundant and diverse array of birdlife and the lower Colorado River Valley is recognized by the Audubon Society as a globally important bird area (http://www.mapsportal.org/audubon_ca_iba/).

Avian surveys for the proposed project to date have detected 130 species, including raptors, passerines, waterfowl, and 13 species on the Service's list of Birds of Conservation Concern, even prior to completion of the full year of surveys requested by the Renewable Energy Action Team (REAT) agencies (URS 2012). Rosenberg et al. (1991) estimate that 70 percent of the approximately 440 known migratory bird species in North America use the Lower Colorado River Valley. For instance, State-listed Swainson's hawks (*Buteo swainsoni*) have been observed in kettles exceeding 100 individuals during migration throughout the area and flocks of ducks and geese also have been observed migrating above the Palo Verde Mesa (G. Mulcahy, CDFG, pers. comm. 2012). Large numbers of mourning doves (*Zenaida macroura*) make daily flights

between water sources along the river and nesting/foraging habitat in desert habitats, directly over the Palo Verde Mesa and the proposed project site (G. Mulcahy, CDFG, pers. comm. 2012). Considering the observation of four doves colliding with heliostats at the Solar One site (McCrary et al. 1986), mourning dove mortalities would be expected at the proposed site. Since turkey vultures (*Cathartes aura*) primarily rely on an acute sense of olfaction to find food sources (Houston 1986, Buckley 1996), they are particularly vulnerable in being attracted to the project site and its associated hazards because of their enhanced ability to detect odorants emanating from avian carrion. In addition, their abundance in the area (nearly 6,300 observations during project point surveys) suggests a large number of vultures may be exposed to flux and collision hazards, and other project effects (URS 2012). These examples illustrate only a few of the potential migratory bird conflicts that likely would occur and detract from several regional conservation efforts, such as the Service's national wildlife refuge complex, and Lower Colorado River Multiple Species Conservation Plan, which are conserving and restoring floodplain habitats to recover bird populations that have suffered substantial historical losses along the lower river valley.

Though few if any utility-scale power tower projects are currently in operation and biological effects remain largely unstudied (Lovich and Ennen 2011), the one intensive study that was conducted (McCrary et al. 1986) on an older form of this technology near Barstow, California documented numerous avian mortalities, particularly from collisions with the heliostats at the facility. Over the past 2 years, the REAT agencies, including the CEC, California Department of Fish and Game (CDFG), BLM, and the Service, have raised numerous concerns regarding additional threats to birds from power tower technology that were not addressed by this study and warrant further investigation (see CEC docket and workshops). As recently as the December 5, 2012, workshop hosted by CEC, it was acknowledged that no agreement has been reached on the thresholds of flux that adversely affect avian species. Because these additional threats are potentially lethal to appreciable numbers of many bird species, it is important that the PSA describe the extent of potential impacts from building and operating the proposed project.

We are concerned that two potential effects to avian species, including eagles and other special-status species, were not sufficiently addressed in the PSA. First, the PSA includes a limited discussion on the risk of birds being blinded or otherwise suffering ocular impairment from exposure to concentrated solar energy (flux). However, the PSA does not clearly explain potential risks to the eyes of different species of birds and the expected magnitude of those risks. Additional analysis or documentation is needed on this section. For our specific comments on potential ocular impairment, please see the Enclosure pertaining to section 4.2-83.

Secondly, the PSA does not consider the potential for exposed avian skin to be burned or singed when a bird flies through the flux airspace surrounding the power tower. The PSA identifies tolerance thresholds for human skin exposed to flux and states that avian tolerance levels likely are higher due to the insulating effect of feathers. However, the PSA does not address potential effects to birds' skin not fully or sufficiently covered in feathers including the exposed heads of vultures and around the eye. Given the short exposure time and low flux level required to burn human skin, we are concerned that exposed bird skin may be burned at lower flux levels than

those considered safe for bird feathers. We recommend a more in depth analysis of these potential effects be included in the FSA. In addition, the effects of multiple exposures to individual birds should also be addressed.

In addition, the PSA does not include a full year of general bird survey results or a minimum of 2 years of bald and golden eagle studies we have recommended since agency coordination began in early 2011. We understand that CEC has different data requirements and schedule constraints; however, we are concerned that insufficient data are available to conduct an adequate bird mortality impact analysis.

Microphyll Woodlands and Migratory Birds

Microphyll woodlands on the project site are comprised primarily of desert ironwood (*Olneya tesota*) and blue palo verde (*Cercidium floridum*). Because of the shade, water, and nitrogen provided by ironwoods, at least 165 plant species use ironwoods as nurse trees, some of which require ironwood presence to survive (Dimmitt 2000a, Suzán et al. 1996). Microphyll woodlands are estimated to support 90 percent of the birdlife while occurring on less than 5 percent of the Sonoran Desert landscape (Dimmitt 2000b). Though bird populations in the desert are generally understudied, over the past decade, an increasing number of endangered and sensitive bird species have been documented using microphyll woodland habitat in the Lower Colorado River Valley, including Gila woodpeckers (*Melanerpes uropygialis*), Lucy's warblers (*Oreothlypis luciae*), Crissal thrashers (*Toxostoma crissale*), Bell's vireos (*Vireo bellii*), Bendire's thrashers (*Toxostoma bendirei*), and long-eared owls (*Asio otus*) (McCreedy 2011). The first three species above have been documented on the project site (URS 2012), in addition to other special-status species, such as the elf owl (*Micrathene whitneyi*) and willow flycatcher (*Empidonax traillii*), that in the California Sonoran desert primarily utilize microphyll woodlands.

The project is proposed in an extensive complex of microphyll woodlands. These stands contain trees which can be hundreds of years old (Dimmitt 2000a). These old growth stands are proposed to be removed within the project footprint. The PSA identifies that "greater clarity" is needed from the applicant about the spatial extent of vegetation disturbance that would result from the project. The existing documentation does not provide sufficient information to quantify accurately what the ecological cost of that loss would be on a regional basis, or whether enough alternative woodland is available for acquisition to partially offset the significant impacts incurred by the proposal. The proposed 3:1 mitigation to development ratio for loss of microphyll woodlands does not recognize the old growth characteristics of the microphyll woodlands found onsite, or species composition and variable ecological function of woodland stands with different size, age, percent canopy cover, and species composition characteristics (DRECP ISA 2010). We assert that the PSA oversimplifies the biological importance of microphyll woodlands on the project site by neglecting to account for stand age, size, percent canopy cover, species composition; stand structural complexity; burro deer use; and location in the migratory flyway. Based on these biological simplifications, the PSA does not provide sufficient support for the premise that a single mitigation ratio applied across the large area of the

Northern and Eastern Colorado Desert Coordinated Management Plan (BLM and CDFG 2002) adequately accounts for the loss of habitat value for the many birds, mammals, and other wildlife that differentially rely on these woodlands for food, water, and shelter. Given the importance of microphyll habitat to migrating birds, as well as the known site fidelity of some species of nesting birds, avoidance and minimization of impacts should be prioritized, and mitigation pursued as close to the project site as possible.

Lastly, we share the concern expressed in the PSA that potential effects of groundwater pumping on the local water table could have a deleterious effect on microphyll woodlands adjoining the project site, given the hydrologic dependence of these woodlands within desert washes (see specific comments under sections 4.2-48, -52, and -170, enclosed).

Microphyll Woodlands and Burro Deer

Microphyll woodlands also provide core habitat for desert mule (burro) deer (*Hemionus odocoileus eremicus*), which depend on old growth woodlands for food, shelter, water, fawning, and dispersal/migratory corridors without which they could not survive in the hottest, driest desert on the continent (Marshal et al. 2006a). Deer also depend on smaller microphyll woodland washes with lower plant biomass that may have higher rates of plant growth (Marshal et al. 2005a) and, thus, higher-quality forage (Marshal et al. 2005b). In California, the burro deer subspecies is endemic to the Sonoran Desert because the leguminous tree species that dominate these woodlands [desert ironwood and blue palo verde] cannot survive the colder winter temperatures and lack of summer rainfall in the Mojave Desert. Krausman et al. (1985) found that burro deer also use microphyll woodlands disproportionate to their occurrence in southwest deserts. Given the limited distribution of burro deer in the State and vulnerability to drought conditions, population levels fluctuate widely, leaving the population vulnerable to additional disturbances (Celentano and Garcia 1984).

Prior to habitat loss and fragmentation from utility-scale renewable energy development, threats to burro deer connectivity were not recognized as a significant problem. In the Sonoran Desert, mule deer do not traditionally migrate in predictable patterns but move nomadically across long distances based on seasonal and annual variations in temperature and precipitation, and therefore, water and food availability (Marshal et al. 2006a). Habitat fragmentation renders the population more vulnerable to stochastic events, such as recurrent drought, which can result in significant population declines (Marshal et al. 2002). Flexibility to move across its range is needed to allow access to ephemeral food and water resources, and resiliency to recover from regional declines in this harsh desert environment (Heffelfinger et al. 2006; Marshal et al. 2006a, 2006b).

The loss of habitat and displacement of burro deer from the project site would result in a net decrease to the rangewide resource base and carrying capacity of the herd (Heffelfinger et al. 2006). Finding land for acquisition of microphyll habitat should occur within the area occupied by burro deer south of Interstate 10 (I-10) but may be difficult to accomplish with the suggested 3:1 mitigation ratio. Lastly, the FSA should address the possibility that groundwater depletion associated with the project may affect the natural springs within the groundwater basin that

provide important water sources for burro deer and other wildlife or the impacts to deer movement throughout the area.

Phasing, Alternatives, and Cumulative Effects

Given the potential extent, magnitude, and long-term nature of habitat impacts associated with power tower development, particularly in the xeric desert environment, phasing the approval of project technologies that have not been commercially tested and proven at a utility scale would likely avoid unnecessary impacts to wildlife. Phasing could be based on the monitoring of first-generation projects to determine that losses of migratory birds and other wildlife can be effectively avoided, minimized, and mitigated to a level of insignificance.

The alternatives analysis in the PSA focused on a narrow subset of sites in the vicinity of the proposed project without assessing the entire 90,000-acre portfolio of alternative properties controlled by the applicant (http://www.brightsourceenergy.com/stuff/contentmgr/files/0/63ecfc415e8722af38abe473ead74c8c/pdf/final_sce_cpuc_approval.pdf), among other potential sites. There may be other less environmentally sensitive sites in this portfolio that should be analyzed in the FSA.

Cumulative effects to migratory birds, regional bird communities, eagles, and other wildlife increase as the number of solar development proposals proliferates. In the lower Chuckwalla Valley, at least three additional right-of-way applications on BLM lands are being evaluated for construction and operation of power tower technology. One additional project in neighboring Rice Valley has been approved with construction scheduled for September 2013. Other power tower projects are being proposed or are under construction in Nevada and along the Colorado River, including in Arizona, where another such project is proposed just north of the town of Quartzsite. Build-out of proposals in California and Arizona (including the proposed project) would entail multiple towers per project, possibly resulting in 12 or more power towers within a 40-mile radius, all with the absence of any substantive data on the many potentially lethal physiological effects associated with the technology as discussed above, in our enclosed comments, and in the CEC dockets. If all or a portion of these projects are approved, the cumulative effects/take levels from power tower projects likely will be significant for many species of birds including local and migrant waterfowl, eagles and other raptors/owls, shrikes, and passerines, especially in light of project-specific impacts to special-status avifauna that have been determined in the PSA to be significant and unmitigable.

Cumulative effects to birds from multiple power tower solar projects was not fully assessed in the PSA, in part because data are not currently available to compare bird risk levels across the many proposed development sites. The current lack of available data suggests that proposed and previously approved project sites should be studied together to determine relative risk levels and least damaging alternatives/sites prior to approval of individual projects. We recommend that the CEC and other permitting agencies consider a programmatic look at power tower technology with better biological data along the I-10 corridor so that individual and cumulative project effects are better understood.

Desert Renewable Energy Conservation Plan (DRECP)

As a REAT agency, the Service is concerned that the Rio Mesa project is proposed outside any of the mapped development focus areas proposed in all of the planning alternatives presented in the DRECP Stakeholder Committee meeting on July 25-26, 2012, and subsequent REAT agency refinements currently being considered. The reason this area is currently not being considered for inclusion in a development focus area is because of its high biological values for several species and natural communities being considered for conservation coverage by the planning effort including several State-listed bird species and extensive stands of microphyll woodland, a natural community that supports the highest levels of species diversity and abundance in the Sonoran Desert.

Conclusion

The PSA was released without a complete analysis of biological effects. Specifically, a complete quantification of expected vegetation impacts, a final delineation of microphyll woodland and State jurisdictional waters, and the full year of avian surveys (and at least 2 years of bald and golden eagle surveys) are lacking but necessary to better estimate impacts to biological resources and inform avoidance, minimization, and mitigation measures. As detailed in the enclosed specific comments and previously docketed information, the many potential hazards posed to avian species by this technology have not been fully addressed and substantial research efforts are needed to better understand the true extent of lethal threats to birdlife.

The PSA concludes the proposed project would result in significant levels of take to migratory birds and impacts to the habitat base of migratory birds, burro deer, and other wildlife. The PSA further concludes that some of these effects cannot be offset or mitigated to a level of insignificance, in part because the many forms of potential injury and death are not well enough understood to quantify, and the scope of take is large enough that it may not be feasibly offset. Based on these conclusions in the PSA and the information discussed above, we additionally remain concerned that: (1) the technology does not appear amenable to avoiding, minimizing, and mitigating take/habitat loss through adaptive management or other means; and (2) the project is proposed at a site with exceptionally high habitat value for numerous resident and migratory birds and other wildlife species.

Recommendations

Prior to proceeding, we recommend CEC consider other sites and conduct further research and analysis until biological effects of the project are demonstrated to be insignificant or fully mitigable. As described above and in our specific comments (enclosed), we recommend three areas for additional analysis: (1) collection and analysis of robust data that address the numerous questions and unknown biological impacts discussed in our specific comments, the PSA, and the CEC docket; (2) completion of a more rigorous cumulative effects analysis of the numerous power tower projects proposed within an approximately 40-mile radius of the project site; and

(3) development of a more comprehensive alternatives analysis of potentially less environmentally sensitive alternative sites.

We appreciate the opportunity to comment on the proposed project, and suggest further coordination among the REAT agencies to determine whether the DRECP interim project review process would be appropriate or effective in addressing these and other issues identified through public comment on project consistency with the DRECP planning process. For further information or questions, please contact Jody Fraser or Nisa Marks of this office at 760-322-2070.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kennon A. Corey', with a long horizontal flourish extending to the right.

Kennon A. Corey
Assistant Field Supervisor

Enclosure

cc:

Amedee Brickey, USFWS, Sacramento, California
Brenda Zaun, Cibola NWR, Yuma, California
Leslie Fitzpatrick, USFWS, Phoenix, Arizona
Ray Bransfield, VFWO, Ventura, California
Greg Miller, BLM, Moreno Valley, California
Holly Roberts, BLM, Palm Springs-Southcoast Field Office, California
Kim Nicol, CDFG, Bermuda Dunes, California
Colorado River Indian Tribes, Parker, Arizona
Quechan Tribe, Yuma, Arizona

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Enclosure

Review Form
Preliminary Staff Assessment Part B
BrightSource Energy, Inc. Rio Mesa Solar Electric Generating Facility

Reviewer's Names: Palm Springs Fish and Wildlife Office

Reviewer's Organization: U.S. Fish and Wildlife Service

Reviewer's Telephone numbers: 760-322-2070

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Biology, endangered species, regulatory oversight (Endangered Species Act, Bald and Golden Eagle Act, Migratory Bird Treaty Act)

Section or Chapter Number and Date of Reviewed Document: Public Draft PSA, Part B dated October 15, 2012

Page	Comments
1.1-12	Executive Summary, Table 1: Please include the following additional projects for consideration of cumulative effects: -Chuckwalla Valley State Prison -Ironwood State Prison -Devers to Palo Verde Transmission Line 1 -Gypsum Solar Project -Golden Sun Wind Project
1.1-14	Second bullet: Please revise to state the following: "The collision, burning, and blinding/eye damage hazards are applicable for all bird species that may fly over the site or near the gen-tie line, including the special-status species. This includes area resident, nesting, wintering, and migrating birds."
Global, including 1.1-14	Third bullet, second sentence: Please add "and/or bald eagles". Given the documented use of the Colorado River flyway by wintering and migratory bald eagles, please ensure both eagle species are considered throughout the document, pursuant to the Bald and Golden Eagle Protection Act (BGEPA).
Global, including 1.1-14 4.2-6 4.2-107 4.2-108 4.2-112 4.2-184	The Service recommends preparation of an Eagle Conservation Plan (ECP) if an applicant decides to apply for an eagle take permit. Because ECPs support eagle permit applications, we prefer ECPs be limited to bald and golden eagles and refrain from treating other raptor species, even though some mitigation measures for impacts to eagles (e.g., power pole retrofitting described in proposed condition of certification BIO-12) may benefit other raptor species. We recommend other raptors, including special status species, be included in the project's Bird and Bat Conservation Strategy (BBCS) (see BIO-12). Please revise the language throughout the executive summary and biological resources sections to reflect this comment.
1.1-14	Third bullet: Throughout please use "and/or" when describing the potential to take bald and/or golden eagles, instead of varying use of "and" and "or."
1.1-14	Second to last full sentence on page: Please revise to state the following: "Staff concludes that any take of a bald and/or golden eagle, should it occur, would be significant according to CEQA."
1.1-14	To be consistent with what the Service would do if issuing an eagle permit under

	BGEPA, we recommend that qualitative cumulative effects to golden eagles be analyzed to at least 140 miles from the project boundary.
Global, including 1.1-15 4.2-7	One of Staff's primary findings is that expected impacts often do not imply conformance with various laws, ordinances, regulations, and standards, including the MBTA and BGEPA. Throughout the document, Staff states that "unauthorized take" could violate the MBTA. For clarity, we recommend the following revision: "Pursuant to the MBTA, no permits are issued for incidental take of migratory birds. Consequently, any incidental take of migratory birds would be unauthorized." The text should be clear that the Service cannot permit incidental take under the MBTA for construction, operation, and maintenance of the proposed project.
1.1-24	Executive Summary, Figure 1: Please show on this map the outline of all projects considered in cumulative effects analysis. The point locations currently illustrated do not clearly depict the extent of all projects proposed, under construction, or existing in the project vicinity. For clarity, please include a text-based key with project names, as the current map is difficult to decipher with the amount of text overlapping project boundaries.
4.2-1 4.2-5	While regularly scheduled, ongoing discussion about project impacts and potential compensation occurred among CEC, the Service, BLM, and CDFG (collectively, "the agencies"), the Service did not explicitly provide comments on the recommended conditions of certification, as stated in the second sentence under "Summary of Conclusions." Please reword to: "Staff's recommended conditions of certification were developed to reflect interagency concerns."
4.2-2	Condition of Certification BIO-14, not BIO-13, describes recommended desert tortoise habitat compensation. Please correct in the first paragraph.
4.2-2	Mitigation for golden eagle foraging habitat is not included in BIO-9, BIO-14, or BIO-17, as described in the first paragraph. Please delete the reference to eagles or revise the first paragraph accordingly. Golden eagle habitat is not mentioned in any of Staff's proposed conditions of certification, despite inclusion in the effects analysis and descriptions of desert tortoise and golden eagle foraging habitat mitigation lands as synonymous (e.g., pages 4.2-6, 4.2-106). Since habitat mitigation is included in the effects section as the basis for the determination that the loss of golden eagle foraging habitat is less than significant, please include golden eagle habitat mitigation in the proposed conditions of certification.
Global, including 4.2-2	Please reconcile the description of 3,834 acres of permanent impacts to native vegetation with the 5,993 acres of project area described in the executive summary (1.1-2) and project description sections (3-1).
4.2.2	Please clarify what constitutes "permanent elimination of native vegetation and wildlife habitat." Please specify whether the project's proposed method of mowing vegetation to 12 to 18 inches in height is included as permanent elimination.
4.2-3	Please include a reference for the estimate that 40,000 ac of privately-owned desert woodland habitat is potentially available for acquisition as habitat mitigation.
4.2-3	Please define what is considered the project "region" within which desert dry wash

	woodland mitigation would be considered acceptable. See comments 4.2-59 and 4.2-129.
Global, including 4.2-3	Second to last paragraph, last sentence: Please revise to state the following: “Staff will coordinate with the applicant, other agencies, and public or private entities specializing in habitat acquisition and management to determine feasibility and, if necessary, identify alternate mitigation.” This provides consistency with current interagency coordination on the review and approval process of project-specific habitat mitigation proposals.
4.2-4	In the common wildlife and nesting birds section, please reword “off-site disturbances” to “off-site effects from...” The source of the described noise, lighting, and weed introductions would be on-site; the indirect effects on common wildlife and nesting birds described here would be off-site.
4.2-4	Common wildlife and nesting birds section, second sentence: Please revise to: “Gen-tie line construction would degrade habitat at work sites and in the vicinity, and...”
4.2-5	First paragraph: Please revise to state the following: “The collision, burning, and blinding hazards are applicable for all bird species that may fly over the site ...”
4.2-5	For clarity, please organize the summary of conclusions section such that all discussion of impacts to all bird species is sequential. In other words, please move the desert tortoise subsection to the beginning of the section, and then address all bird species (e.g., resident, nesting, and migratory). We recommend that federally and state listed species be addressed first in each respective section.
4.2-5	Please add BIO-15 (Raven Monitoring, Management, and Control Plan) to the list of proposed conditions of certification that would compensate for impacts to desert tortoise.
4.2-5	Please add a sentence that project activities affecting desert tortoise also would be subject to the provisions of the anticipated biological opinion for the project.
4.2-6	First paragraph, last sentence: Please revise to state the following: “...to obtain a Biological Opinion indicating the USFWS’s determination whether the project is likely to jeopardize the continued existence of the desert tortoise and obtaining an exemption from the incidental take of desert tortoise.”
4.2-6	<p>Please articulate the goal(s) of mitigation for operational impacts to bald and golden eagles. Please describe how proposed mitigation of retrofitting power poles accomplishes this goal(s). Please discuss the rationale for proposing out-of-kind mitigation. For instance, explain how power pole retrofitting adequately compensates for mortality from concentrated solar energy, collision with heliostats, or other generation components (i.e., not transmission infrastructure). The FWS has released the technical appendices for revised Eagle Conservation Plan guidance for Land-based Wind Energy Facilities. These technical appendices include an example of a Resource Equivalency Analysis on power pole retrofitting to offset take of eagles. We recommend utilizing this REA approach for assessing the value of the proposed mitigation for golden eagles.</p> <p>If it is determined that an Eagle Act take permit from the Service is needed, please</p>

	note that the project owner would be subject to any mitigation requirements associated with that permit.
4.2-6	Second to last sentence: Please include the risk of blinding or other temporary or permanent ocular impacts when summarizing potential risks that would lead to take of bald and/or golden eagle(s).
Global, including 4.2-7	Please clarify why Staff uses the word “imply” when describing potential nonconformance of the proposed project with relevant LORS. We recommend separating the discussion into two sections; one that addresses the California state laws for which CEC is the responsible agency, and one that addresses other laws, including federal laws, for which CEC is making a determination based on interagency coordination. Please clarify what Staff’s determination is on compliance with the LORS that CEC oversees. This comment applies throughout the document.
4.2-7	Please define “near” the western edge of Gila woodpecker’s range.
4.2-7	Please add consideration of the MBTA to the summary of conclusions for elf owl and Gila woodpecker.
4.2-8	First paragraph: Proposed condition of certification BIO-17, not BIO-19, is the Burrowing Owl Impact Avoidance and Compensation Measures.
4.2-8	End of first paragraph: Please include Staff’s determination on whether effects to burrowing owl are mitigable.
4.2-8	The paragraph on other special status raptors states that BIO-1 through BIO-5 would minimize or compensate for project impacts to prairie falcon foraging habitat. Please account for impacts to foraging habitat for the other special status raptors considered here.
4.2-9	First paragraph: Please add consideration of potential blinding or other ocular impacts.
4.2-9	End of first paragraph: Please include Staff’s determination of the implications of discussed impacts for compliance with the MBTA.
4.2-9	Special status migratory and wintering birds subsection, second sentence: Please revise to state the following: “...but they are likely to fly over the site either during migration through the area or during shorter flights among regional wetland and agricultural habitats.”
4.2-9	Special status migratory and wintering birds subsection: Please add consideration of potential blinding or other temporary or permanent ocular impact.
4.2-9	Special status migratory and wintering birds subsection: Please include Staff’s determination of the implications of discussed impacts for compliance with the MBTA.
4.2-11	Please describe in additional detail the rationale used to decide possible exceptions to the “not significant” determination on the contribution of the project to cumulative effects.
4.2-14	Please change the abbreviation for Department of the Interior to DOI, instead of USDI.
4.2-15	Desert Renewable Energy Conservation Plan – Interim Planning section: As a Renewable Energy Action Team (REAT) agency, The Service is concerned the project is proposed outside any of the mapped development focus areas in all of the

	<p>planning alternatives presented in the DRECP Stakeholder Committee meeting on July 25-26, 2012, and subsequent REAT agency refinements currently being considered. The reason this site is not currently being considered for a development focus area is because of its high biological values for several species and natural communities being considered for conservation coverage by the planning effort, desert mule (burro) deer (<i>Hemionus odocoileus eremicus</i>), several State-listed bird species, and extensive stands of desert dry wash (microphyll) woodland, a natural community that supports the highest levels of species diversity and abundance in the Sonoran Desert. Please include this information in the FSA.</p>
4.2-18	<p>We recommend Staff require the temporary construction logistics area be enclosed with desert tortoise exclusion fencing. Since this area would only be used during construction and would not be included inside the permanent fencing around the project, we suggest that this area be fenced with temporary, instead of permanent, desert tortoise exclusion fencing.</p>
4.2-19	<p>Heliostat washing for 12 hours per night implies that night lighting would be required. Please discuss impacts from this activity (i.e., water usage, runoff, and night lighting) in the effects analysis sections. Please also discuss any disturbance to wildlife expected to result from personnel presence during night operations.</p>
4.2-19	<p>Please specify whether right-of-entry issues along the gen-tie line have been resolved, or how resolution would occur prior to construction.</p>
4.2-25	<p>Mojave fringe-toed lizard is the only species for which occurrence numbers were included in the summary section. Please be consistent in the type of information presented across species, or clarify why the additional information is of key importance for this species.</p>
4.2-25, 4.2-49	<p>The project site supports a higher percentage of microphyll woodland than the average across the NECO Plan area. Please discuss the biological significance of the relatively high density, high percent canopy cover, and old growth stand characteristics of the microphyll woodlands on the project site, and the implications for mitigation.</p> <p>The recent Independent Science Advisors' report on the DRECP included the following paragraph on the ecological value of microphyll woodland. Please incorporate this information into the description of the ecological importance of microphyll woodlands.</p> <p>“The ironwood is a keystone species in the Sonoran Desert due to its influence on soil nutrients and the food and cover it provides for a variety of desert biota (Nabhan and Carr 1994). Ironwood provides nesting platforms and cavities for nesting birds, and its dense canopy is utilized by nearly 150 bird species. The ironwood is the last in a phenological series of desert tree legumes to bloom following mesquite and palo verde. The Ironwood provides sustenance to invertebrates and thereby food for migrating and resident birds. In addition, ironwood is one of the longest-living plants in the Sonoran Desert, with individuals living well over 1000 years, so it serves as an extremely long-term component over centuries of extreme drought in providing a</p>

	<p>micro-habitat with less direct sunlight, lower surface temperatures, more organic matter, higher water availability, and protection from herbivores. Over the lifetime of one tree, more than 230 plant species have been recorded starting their growth within the protective microclimate under ironwood "nurse plants" (Nabhan and Carr 1994). This also creates an optimum wildflower nursery which is foraged by rabbits, bighorn, and other native species. An extraordinary level of biodiversity is created by ironwoods, including many dozens of species of bees, ant colonies, and other insects."</p> <p>Citation: DRECP ISA (DRECP Independent Science Advisors). 2010. <i>Recommendations of Independent Science Advisors for The California Desert Renewable Energy Conservation Plan (DRECP)</i>. October 2010. (DRECP-1000-2010-008-F.) Prepared For: Renewable Energy Action Team (California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, California Energy Commission). Produced by: Conservation Biology Institute. Accessed online April 2011. http://www.drecp.org/documents/index.html#science.</p>
4.2-25	Third paragraph, last sentence: Please revise to state the following: "There are no existing anthropogenic barriers to wildlife movement..."
Global, including 4.2-26 4.2-29 (Table 5)	<p>Table 4: Please include the Service's Birds of Conservation Concern to Biological Resources. Also include these species in discussions of special status species throughout the document.</p> <p>We recommend including in the third column the following definition: "Species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973" (from 1988 amendment to the Fish and Wildlife Coordination Act).</p>
4.2-39	For clarity, please include in the introductory paragraphs the definition of mitigation as used in the PSA.
4.2-39, 4.2-48	<p>Table 6: For clarity, please describe how the disturbance acreages were derived. These acreages differ from the project acreages included in the executive summary (1.1-2) and project description (3-1) sections; if this is correct, please include an explanation as to why they are different. If this is incorrect, please make the appropriate corrections throughout the document.</p> <p>Please include a table of disturbance acreages by project component (e.g., construction/laydown area, power blocks, heliostat fields, access roads on- and off-site, the administrative area, gen-tie line, etc.). This information should guide Staff's development of final recommended conditions of certification to avoid, minimize, and mitigate anticipated project impacts.</p>
4.2-41	Impacts to common wildlife and nesting birds, second paragraph of the determination column: Please revise to state the following: "These hazards would be mitigated to less than significant for large raptors with Staff's recommended conditions of

	certification.”
4.2-43	Third paragraph in the determination column of the burrowing owl subsection: Please revise to state the following: “however, contribution to mortality due to collision and solar energy flux hazards would remain cumulatively considerable.”
Global, including 4.2-43	“Concentrated solar energy” does not describe an effect to a bird. Please revise the list of direct impacts to describe the <u>effects</u> to a bird (e.g., blinding, singeing, burning, injury or death from collision, mortality, etc.), instead of only the cause of the effect (e.g., concentrated solar energy). Please ensure this type of imprecise wording is avoided throughout the PSA, for all species and effects.
4.2-45	Direct Impacts to Native Vegetation and Wildlife Habitat section, third sentence: To ensure consistency with the rationale described on page 4.2-46, please revise to describe construction or long-term effects, instead of temporary effects.
4.2-46	Please specify if there are any vegetation impacts that Staff are considering temporary, as defined here (e.g., lasting less than 5 years). Also, please provide rationale for temporary impacts lasting less than 5 years. As described in the first paragraph on this page, impacts to vegetation in the desert generally are considered permanent because of the lack of proven restoration methodologies and the length of time necessary to allow for natural regeneration.
4.2-46	Please revise the sentence about the impacts of vegetation mowing. Proposed vegetation treatment may be more compatible with the goals of soil and water resource conservation; however, as described in the rest of the effects section, treatment would degrade habitat value of remaining vegetation. Thus the proposed treatment would not “enhance” soil and water resource conservation.
4.2-46 4.2-47 4.2-62	<p>Please specify where vegetation would be cut to ground level, and where vegetation would be mowed to 12-18 inches in height, as described elsewhere in the PSA.</p> <p>Please separately analyze the effects of each of these vegetation treatments, and include the expected total disturbances of each type.</p> <p>Please describe how vegetation would be cut or removed during operations and maintenance to allow continued heliostat function and fire hazard management. Please describe what methods of vegetation trimming would be used (e.g., hand trimming versus mechanized), what equipment would be necessary, staging areas (i.e., areas previously disturbed by project activities or undisturbed areas), and any other information needed to assess any potential additional impacts from this component of the project description.</p>
4.2-46, 4.2-47	<p>Please elaborate on how the proposed project would “substantially degrade” habitat value and what anticipated short- and long-term effects on vegetation would be. For example, what physiological, growth, or other impacts would be expected to individual plants? How would that affect the habitat value of the vegetation? How would vegetation treatment alter the ecosystem function of plants within the project boundary? Please provide specific discussion points and supporting citations, if available.</p> <p>Please describe, with supporting citations and rationale, whether Staff anticipates</p>

	vegetation regrowth at project completion. Please describe how much time and what conditions are necessary for regeneration; whether or not the proposed project site supports appropriate conditions; and a comparison of proposed vegetation treatments to other practices. Please discuss factors such as soil impacts, weed presence, restoration requirements, and vegetation management practices (e.g., leaving roots intact, vegetation mowing, grading, etc.). If supporting literature does not exist, please describe Staff's rationale.
4.2-46	Temporary and long-term impacts subsection, last paragraph: Please clarify if temporary access roads to construction sites are proposed or not.
4.2-46	Please include a table depicting acreages in the discussion of vegetation impacts.
4.2-46	Please clarify what "heliostat support installation" is, and what anticipated associated vegetation impacts are. Please specify what associated area would be cleared and grubbed. Please specify how the area of disturbance from this activity compares to or overlaps with disturbance resulting from vegetation mowing and other project construction activities.
4.2-46	If clearing and grubbing is proposed at each tower or pull site along the proposed gen-tie, please include in the project description. Different species occur along portions of the gen-tie line than on the project generation site; consequently, clearing and grubbing along the gen-tie line could have different biological impacts that should be discussed.
4.2-47	First paragraph, last sentence: Please revise to include an assessment of long-term vegetation function with respect to baseline habitat conditions. We recommend any assessment of "benefit" or adverse impact be made against the environmental baseline.
4.2-47	Overview of wildlife habitat impacts section, second paragraph: Staff asserts that remnant vegetation after construction may be suitable for some common species. Please describe what aspects of the habitat would make that true. Please support the conclusion with specifics, citations, or supporting rationale. Similarly, please specify what aspects of remaining vegetation would make it unsuitable habitat for other species, as asserted in the subsequent sentence.
4.2-47, 4.2-49	Please include citations or a rationale supporting as the limits of indirect effects the proposed 500 foot buffer around site boundaries and 10 foot buffer next to access roads.
4.2-47	Last paragraph: Please specify what "other [indirect] effects" to wildlife habitat are anticipated.
4.2-48	First sentence: Please clarify to what circumstances Staff is referring. Be specific as to whether or not Staff expects the indirect effects of the project to vary by project component, by habitat type, by species, or by other factors.
4.2-48	Please elaborate on the statement about effects to groundwater-dependent species. Please specify what species are considered, what their expected thresholds of tolerance to water drawdown would be, and over what distance effects would be expected to extend. Please elaborate on what the consequences of being "vulnerable" to groundwater depletion are expected to be (e.g., mortality, reduced growth, smaller leaf size, etc.). If discussed elsewhere in the PSA, please refer the reader to the

	relevant page(s).
4.2-48	Please specify how indirect impacts, or the buffer area around the project, are accounted for in Staff's determination of what impacts are substantial, cumulatively significant, and mitigable.
4.2-48	Please describe earlier in the document (e.g., at first reference to one) the synonymy of desert dry wash woodland, microphyll woodland, and blue palo verde-ironwood habitat, and then be consistent throughout the PSA which term is used to describe the habitat.
4.2-49	Direct effects to native vegetation and wildlife habitat section, last paragraph: Please move this paragraph to before the last paragraph on page 4.2-47. This would clarify the transition from discussing direct effects to indirect effects.
4.2-49	Direct effects to native vegetation and wildlife habitat section, last sentence: Please revise to state the following: "These are described further in a separate section below."
4.2-49	Indirect effects to native vegetation and wildlife habitat section: Please tie each of the causes listed in the first paragraph back to what the expected effects <i>to vegetation</i> would be (e.g., reduced growth, change in the community composition, etc.).
4.2-49	Please revise the sentence about heliostat wash water to state the following: "...wash water on soil beneath the heliostats (runoff would concentrate along the driplines, affecting soil water and resultant habitat suitability for different plant species (e.g., opportunistic nonnative species versus natives)."
4.2-49	Please specify why altered drainage patterns are "especially" likely in the locations described. Please describe what project components (e.g., access roads, fences) or environmental attributes cause this likelihood (i.e., are these the areas that would be paved?). See general comment about connecting the dots between the project description and anticipated effects.
4.2-50	Please define "weed species." Previously, the document refers to nonnative or invasive species. If Staff ascribes different meanings to these three terms, please define each at first use, or use one term consistently throughout the PSA.
4.2-50	The second sentence of the paragraph beginning "human activities can..." is redundant; please delete.
4.2-50	First full paragraph, fourth sentence: Please revise to state the following: "...propagate invasive species, because these species are adapted to soil disturbance..."
4.2-50	Sentence that cites Abella et al.: Please revise to state the following: "...representing a serious threat to native desert ecosystems (Abella et al. 2008) for the reasons discussed above."
4.2-50	Sentence beginning "Thus, the proposed Rio Mesa SEGF..." Please revise to state the following: "Thus, construction of the proposed Rio Mesa SEGF, including solar generation facilities, associated gen-tie line and other facilities, would be expected to introduce and/or facilitate the spread of invasive non-native plants."
4.2-50	Second paragraph, first two sentences: Please revise as follows: "Historically, a limited suite of alien plant species have been capable of invading undisturbed desert habitat, due to the hot and arid environment, undependable timing and amount of

	annual precipitation, and often saline or alkaline soils (Mack 2002).”
4.2-50	To connect project activities, literature citations, and expected effects, please revise the sentence beginning “Shade beneath the heliostats...” as follows: “Shade beneath the heliostats would alter the microenvironment by creating a cooler, moister microhabitat (Smith 1984, Smith et al. 1987), thereby favoring weedy annual species (citation).”
4.2-50	Sentence beginning “Shading and wind...” Please revise as follows: “Shading and wind deflection caused by structures in the desert decrease soil temperature...”
4.2-50	To clarify the discussion of heliostat washing, please provide a specific description of project activities and provide context to evaluate their impact. For example, please specify the frequency of mirror washing and the expected quantity of water used per unit area or per washing event. Please then compare this to annual rainfall in the area, or provide other context that frames discussion of expected soil, vegetation, and microclimatic effects. Please provide citations and walk the reader through Staff’s assumptions and resultant conclusions about the types and magnitude of expected effects from this project activity. See general comment about connecting the dots between the project description and anticipated effects.
4.2-50	Sentence beginning with “Weeds were relatively...” Please revise to reflect baseline conditions, as follows: “Weeds are relatively low in abundance throughout the Rio Mesa SEGF site.”
4.2-50	Last sentence: Please provide a citation.
4.2-51	Sentence beginning “the potential spread or proliferation...” Please revise as follows: “The potential spread or proliferation of non-native annual grasses, combined with the proximity to ignition sources during construction and operations activities could increase the risk of fire. Effects of fire to these poorly-adapted desert communities would be harmful, particularly to cacti and most native shrub species.” Please provide appropriate citations for this section.
4.2-51	For clarity, please move the last three sentences of the first paragraph to prior to the sentence beginning “weeds tend to spread...” This would keep discussion of project effects to fire cycle in one place, before discussing other biological feedback mechanisms that may be affected. If the effects described in these three sentences have been documented elsewhere in the desert, please provide supporting citations or examples.
4.2-51	Please provide citations when describing the potential effects to native vegetation of herbicide use. Please describe what the expected end effect for native plants and wildlife of herbicide exposure is. If injury and/or mortality are expected, please include.
4.2-51	Please include grading and vegetation clearing as activities that would increase aeolian (wind) erosion of the soil. When discussing dust, please specify what areas of the project site are anticipated to cause dust problems.
4.2-51	In the last paragraph, please tie soil erosion and dust issues back to vegetation impacts. For example, discuss the ramifications for plants of loss of soil, interrupted processes of nutrient accumulation, and other effects mentioned.

4.2-51	Sentence that begins “The destruction of plants...” Please revise as follows: “...exacerbates soil erosion by creating a looser soil surface and accelerates...” If this revision changes the intent of the sentence, please clarify.
4.2-52	First paragraph: Please provide examples of what types of pollutants would be expected. If appropriate, please refer the reader to another section of the PSA.
4.2-52	First paragraph: Please cite any examples pertaining to silt deposition downstream. Please elaborate and explain what Staff’s conclusions are about impacts to water quality and hydrology downstream, and how that would affect associated vegetation.
4.2-52	Please clarify whether the project is acquiring existing and/or currently-used water rights, or if water use associated with the project would represent incremental, additional, new use. In addition, please state whether the anticipated rate and extent of groundwater drawdown is known or refer the reader to another section of the PSA. If unknown, please state Staff’s assumptions about groundwater use, plant reactions, and biological significance.
4.2-52	<p>Hydrology and groundwater-dependent vegetation subsection: Please specify how it would be determined if plant stress or mortality are related to project activities. Please include a description of how stress or mortality would be determined, what baseline would be used for comparison, and how factors other than project water use would be accounted for. Please include detailed descriptions of the information required for the desert dry wash woodland monitoring plan described in proposed condition of certification BIO-8. Please set up here the biological basis for the proposed monitoring locations and duration of BIO-8. Please provide a framework for an adaptive management process, should project activities be found to be causing plant stress or mortality. As part of that, identify the parties that would be involved, and describe how mitigation ratios would be determined if habitat mitigation is pursued.</p> <p>Please describe the geographic area across which off-site habitat acquisition would be considered to mitigate for project impacts to groundwater dependent vegetation. If in different watersheds, please describe how this would mitigate project impacts to a less than significant level. Given the importance of microphyll habitat to migrating birds, as well as the known site fidelity of some species of nesting birds, avoidance and minimization of impacts should be prioritized, and mitigation pursued as close to the project site as possible.</p>
4.2-52	Please discuss anticipated effects, if any, of groundwater drawdown on the natural springs in the project vicinity, and the implications of that for burro deer and other wildlife populations.
4.2-52	Second paragraph: Please replace BIO-3 with BIO-8, to reflect the proposed conditions of certification.
4.2-52	Second to last sentence: Please add an “S” to USFW.
4.2-53	The citations, analysis, and discussion presented here regarding habitat mitigation ratios is the type of supporting language we recommend integrating throughout the document, to explain Staff’s rationale about biological impacts and their significance.
4.2-53	Last paragraph: The amount of suitable habitat across the range of desert tortoise is

	<p>not currently the limiting factor in terms of achieving recovery; the long-term survival and recovery of the species relies on coupling targeted land acquisition with more effective, strategic habitat management of tortoise conservation areas and associated linkages. That said, as more and more large-scale renewable energy projects are permitted and constructed, the amount of available, unfragmented habitats may become a more pressing need. We recommend incorporating this discussion, to reflect the desert tortoise recovery plan (Service 2011).</p> <p>Citation: U.S. Fish and Wildlife Service. 2011. Revised Recovery Plan for the Mojave Population of the Desert Tortoise (<i>Gopherus agassizii</i>).</p>
4.2-57, 4.2-106	<p>Please briefly justify/support Staff's assumption that acquisition lands for native vegetation and wildlife habitat impacts would serve as suitable mitigation lands for desert tortoise habitat, burrowing owl habitat, and golden eagle foraging habitat. Each of these species has specific habitat requirements (e.g., friable soils, adequate prey base, etc.), which may not overlap completely.</p>
4.2-57	<p>Second full paragraph: Please add a sentence that states that the project proponent must fulfill the requirements for each habitat category, regardless of whether nesting of mitigation lands is implemented to the extent feasible.</p>
4.2-57	<p>Please clarify why Staff does not present the same concern about the feasibility of 3:1 mitigation of impacts to state waters that is presented for blue palo verde – ironwood habitat. These two habitat features are generally at least loosely associated.</p>
4.2-59	<p>Please provide a citation that desert dry wash woodland is “relatively rare.” If an approximate percentage for land cover exists, please include. Please compare the microphyll percent land coverage throughout the desert to that on the project site.</p>
4.2-59 4.2-129	<p>Please specify within what geographic area Staff considers it appropriate to mitigate for impacts to desert dry wash woodland. The NECO Plan area is quite large and, in some cases, overestimates the extent of desert dry wash woodlands; hence, habitat acquisition in areas farther from the project site may not mitigate for project impacts in a biologically meaningful way at least for some species. Because of the importance of desert dry wash woodland on the project site in supporting the burro deer south of I-10, all mitigation lands for desert dry wash woodland should be acquired within the range of burro deer. Mitigation lands should have comparable percent canopy coverage of desert dry wash woodland. In addition, lands should have species composition and old growth stand characteristics comparable to the woodlands on the project site.</p> <p>The project is proposed in an extensive complex of microphyll woodlands. These stands contain trees which can be hundreds of years old (Dimmitt 2000a). These old growth stands are proposed to be removed within the project footprint. The PSA identifies that “greater clarity” is needed from the applicant about the spatial extent of vegetation disturbance that would result from the project. The existing documentation does not provide sufficient information to quantify accurately what the ecological cost of that loss would be on a regional basis, or whether enough</p>

	<p>alternative woodland is available for acquisition to partially offset the impacts incurred by the proposal. The proposed 3:1 mitigation to development ratio for loss of microphyll woodlands does not recognize the old growth characteristics of the microphyll woodlands found onsite, or species composition and variable ecological function of woodland stands with different size, age, percent canopy cover, and species composition characteristics (DRECP ISA 2010). We assert that the PSA oversimplifies the biological importance of microphyll woodlands on the project site by neglecting to account for stand age, size, percent canopy cover, species composition; stand structural complexity; burro deer use; and location in the migratory flyway. Based on these biological simplifications, the PSA does not provide sufficient support for the premise that a single mitigation ratio, applied across the large area of the NECO Plan, adequately accounts for the loss of habitat value for the many birds, mammals, and other wildlife that differentially rely on these woodlands for food, water, and shelter.</p> <p>Citation: Dimmitt, M.A. 2000a. Fabaceae (legume family). In <i>A Natural History of the Sonoran Desert</i> (S.J. Phillips and P.W. Comus eds.). Arizona-Sonora Desert Museum Press. Tucson, Arizona:227-239.</p> <p>DRECP ISA (DRECP Independent Science Advisors). 2010. <i>Recommendations of Independent Science Advisors for The California Desert Renewable Energy Conservation Plan (DRECP)</i>. October 2010. (DRECP-1000-2010-008-F.) Prepared For: Renewable Energy Action Team (California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, California Energy Commission). Produced by: Conservation Biology Institute. Accessed online April 2011. http://www.drecp.org/documents/index.html#science.</p>
4.2-59	Last phrase on the page: Please specify the circumstances under which Staff would consider it appropriate to consider alternate mitigation, what types of mitigation would be considered, how alternatives would be evaluated, and what parties would be involved in deciding mitigation suitability.
4.2-60	Please delete the second sentence of the first paragraph; the information is irrelevant to assessing impacts to waters of the state.
4.2-60	Please add discussion of the low frequency, high intensity nature of storm flow in the desert.
4.2-61	Last paragraph: For clarity, please substitute “row” for “subsection” when describing the impacts to waters of the state entry in Table 9.
4.2-61	<p>Table 9: Please clarify whether both the project generation facility and gen-tie line are included in the temporary construction acreages.</p> <p>Please reconcile the “temporary construction” impacts identified in Biological Resources Table 9 with the long-term and construction impacts described on 4.2-46, reflective of slow recovery times in the desert.</p>

4.2-62	Please include details relative to water diversion, storm drainage control, and the storm water management system, and what modifications to existing flow would be implemented as part of the proposed project (e.g., culverts, barriers, etc.). In particular, please provide specifics such that the phrase “to the extent practicable” can be removed, and the reader clearly understands what activities are included in the project description. Please ensure that anticipated effects to vegetation and habitat value resulting from changes in flow are documented and analyzed.
4.2-62	End of third paragraph: Please revise as follows for clarity “...about 0.5 percent of the total state jurisdictional acreage associated with the project.”
4.2-63	Please support, elaborate, and justify the stated conclusion that alterations to storm flows would be “relatively minor.”
4.2-64	First paragraph: Please include discussion of off-site, downstream impacts.
4.2-64 (and 4.2-61)	Please include a separate, concluding paragraph at the end of the section on impacts to waters of the state that describes the unknowns due to the lack of a LSAA application. Please include a discussion of what the next steps are and what types of questions would be resolved by receiving the application.
4.2-65	Please discuss the extended drought in this region, and the limitations of data collected. Please identify any assumptions made regarding the data submitted.
4.2-66	Please define what would constitute “substantial adverse impacts” to Harwood’s milk-vetch or Harwood’s eriastrum and the likelihood that such impacts would occur. Please specify why it is unknown whether such impacts would occur, as implied by the phrase “should they occur.” If additional data are needed, please specify what information is needed, and whether data limitations are based on applicant actions or environmental constraints. Please apply the same comments to the subsequent discussions for ribbed cryptantha, desert unicorn plant, or Utah vine milkweed.
4.2-66	For clarity, we recommend moving the impact evaluation and mitigation strategy section to follow the direct and indirect impacts sections. This order would correlate all expected impacts to the determination of the significance of each impact, followed by the discussion of Staff’s conclusions and commensurate mitigation.
4.2-66	Last paragraph: Please define “special circumstances.” Please explicitly state Staff’s conclusion on whether or not those are met. Also, please provide support for the implied conclusion that conditions for special circumstances under CEQA are not met.
4.2-67	Please include citations throughout this page of descriptions of plants’ ranges, threats, and habitat requirements.
4.2-67	Threats subsection, last sentence: Please clarify whether <u>existing</u> disturbances <u>are</u> located on existing access routes and utility alignments, or if this statement refers to expected project-related disturbances. If the latter, please explain why Staff anticipates that project-related disturbances would be localized on access routes and utility alignments, when vegetation disturbance and clearance would occur and vegetation community and microclimate conditions on-site would be expected to change. Please also specify whether the referenced access routes and utility alignments are

	existing or those proposed in association with the proposed project.
4.2-67	Status as peripheral populations subsection: When describing Harwood's milk-vetch occurrences, please reconcile the statement that occurrences on the project are at the "western limits" of the plant's range, when the plant is also found in San Diego and Imperial Counties. If appropriate, please revise to be the "northwestern limits," or state that its geographic distribution is centered farther east.
4.2-68	Fourth full paragraph: Please identify whether there is suitable habitat or extant downstream occurrences of the special-status plants considered here. If yes, please describe. If no, please state so. In either case, provide the context necessary to support the determination of the likelihood of downstream effects put forth in the document.
4.2-68	Please describe the habitat in interior Ventura County where the CBI (2000) study was conducted, and explain the limitations or appropriateness of extrapolations about rare plants from that study to the proposed project site.
4.2-68	Please elaborate Staff's comment about invasive ant species. Please provide citations, and identify any known source populations in the area, and the likelihood of colonization of the area.
4.2-69	Conclusions and discussion of special-status plant mitigation section, first sentence: Please add "according to the significance criteria described above" to the end of the sentence.
4.2-70	Please change the section header "overview of impacts to wildlife" to be "construction impacts to wildlife," to better reflect the section's contents and mirror the subsequent heading "operational impacts to wildlife."
Global, including 4.2-70	Common wildlife subsection: Please provide an overview of the results of pre-project surveys for each resource, to assist in understanding the magnitude of expected effects. Please also discuss any other relevant data sources, such as regionally available avian radar data, avian surveys from Cibola National Wildlife Refuge, CDFG occurrence records, and long-term dove coo count survey transects in the project vicinity.
4.2-70	Common wildlife subsection, second paragraph: Please revise as follows: "...and other less mobile species could occur during site clearing or mowing, grading, and movement of equipment and vehicles."
4.2-70	Common wildlife subsection, second paragraph, second sentence: Please revise as follows: "Wildlife could become entrapped in open trenches or pipes during construction..." This revision would also reflect recommended condition of certification BIO-5.
4.2-70	Please address increased intra- and inter-specific competition that may result from common wildlife dispersal to off-site habitat.
4.2-70	Please provide a citation for the vegetation treatment at Hidden Hills.
4.2-67 4.2-70 4.2-122	The concepts pertaining to peripheral populations apply to more species than just special-status plants. Please discuss in the common wildlife subsection or wildlife movement section the

population-level impacts of habitat loss from the proposed project or cumulative projects to common and special-status wildlife species. The deserts of southern California are among the hottest and driest places in North America. Individuals surviving in harsh or novel habitat, often at the edge of a species' distributional range, can play an important genetic and geographic role in the survival of the species in the face of environmental fluctuations. Strong selection pressure can result in behavioral and physiological adaptations that facilitate survival in harsher climates (Lesica and Allendorf 1995). These adaptations can confer genetic benefits that contribute to greater survivability of individuals, and ultimately the species, in response to long-term, wide-scale environmental changes. In addition, peripheral populations typically have lower population densities, and consequently are more resistant to density-dependent sources of mortality, such as disease (e.g., Burdon and Chilvers 1982). In a study of 245 imperiled species worldwide, Channell and Lomolino (2000) found that 68% of surveyed species retained a greater than expected portion of their distribution in habitat peripheral to the historical range. Given the above, areas supporting peripheral populations can function as refugia against environmental catastrophes and as a source for recolonization of depleted/extirpated core populations of a species (Nielsen et al. 2001, Flannery 2001).

According to climate change models, conditions currently present in parts of the Colorado and Sonoran deserts are expected to expand to other parts of the California deserts (Allen 2012), with an associated shift in vegetation (Notaro et al. 2012). Populations in the Colorado/Sonoran desert of wide-ranging species such as desert tortoise or bighorn sheep often demonstrate genetic and morphological adaptations distinct from other parts of a species' range. Consequently, the genetic diversity presumably present in populations from the hottest and driest parts of species' ranges may become increasingly important for ensuring the species' persistence.

Literature Cited:

- Allen, R.J. 2012. Climate change scenarios in Southern California. Presentation at University of California Riverside's Center for Conservation Biology and University of California Cooperative Extension's Climate Change Workshop. May 22, 2012, University of California Riverside, Palm Desert, California.
- Burdon, J.J. and G.A. Chilvers. 1982. Host density as a factor in plant disease ecology. *Annual Review of Phytopathology* 20:143-166.
- Channell, R. and M. V. Lomolino. 2000. Dynamic biogeography and conservation of endangered species. *Nature* 403:84-86.
- Flannery, T. 2001. *The Eternal Frontier*. Atlantic Monthly Press, New York.
- Lesica, P. and F. W. Allendorf. 1995. When are peripheral populations valuable for conservation? *Conservation Biology* 9:753-760.

	Notaro, M., A. Mauss, and J.W. Williams. 2012. Projected vegetation changes for the American southwest: combined dynamic modeling and bioclimatic-envelope approach. <i>Ecological Applications</i> 22:1365-1388.
4.2-71	Please include a paragraph prior to the one starting “Staff concludes...” that describes potential impacts associated with ponding of water used in dust control, any water ponds or water storage tanks used during construction, and any other water source.
4.2-72	Since this section focuses on wildlife impacts, please tie the impacts to vegetation described in the first paragraph back to expected impacts to wildlife.
4.2-72	For consistency, please retitle the nesting birds section to “construction impacts to nesting birds.” Alternately, please make the text smaller and lowercase, and reduce to be a subsection of the construction impacts to wildlife section, above.
4.2-72	Please clarify what effects Staff expects to nesting adult birds, and provide supporting rationale and citations. If no effects are expected to nesting adults, please specify.
4.2-72	Second paragraph, first sentence: If nesting adult birds flee the project site, any associated nestlings or eggs would likely die. Please discuss this potential impact, its likelihood, and what measures would be taken to avoid it.
4.2-72	Second paragraph, third sentence: Please revise as follows: “...it would likely destroy bird nests, and any associated eggs or nestling birds.”
4.2-72	Please discuss impacts to nesting birds resulting from causes other than noise levels (e.g., human and vehicular activity).
4.2-72	Please provide citations throughout the discussion of noise impacts. Please explain why Staff concludes that impacts from noise to nesting birds, including special-status species, during construction would be less than significant.
4.2-74	Roads and traffic subsection: Please specify whether Staff expects project activities to lead to new, unauthorized vehicle routes.
4.2-74	Please delete the clause “if dilute saline wastewater is present in the evaporation ponds.” Ravens generally are attracted to any water source in the desert, and would not be limited to dilute saline wastewater. Please also tie this discussion back to its biological importance. A suggested revised sentence would read, “In addition, water in the evaporation ponds could serve as a water subsidy for ravens, who predate on desert tortoise and other reptiles (see discussion...).”
4.2-74	End of the second paragraph on evaporation ponds: Please revise as follows: “(...other special status species) and that would be already exposed to other project-related sources of mortality (see above).”
4.2-74	Last paragraph, second sentence: Please state “For example” prior to describing salt toxicosis at the Harper Lake.
4.2-75	In the first sentences on this page, please make the transition from a documented example to discussion of projected project impacts clearer. As written, it is unclear if the last two sentences of this paragraph related to the example or if they are anticipated effects from the proposed project. Please also add a paragraph that describes what effects are anticipated at the Rio Mesa site, and how those are mitigated by recommended conditions of certification.

4.2-75	Please revise the sentence that references a subsection entitled “Operational Impacts to Birds and Bats.” No such section, as titled, exists in the PSA.
4.2-75	<p>Netting may not be sufficient to avoid bird mortalities at evaporation ponds, as described. For example, numerous bird mortalities have occurred at the ponds at Desert Sunlight Solar Farm, despite netting around the ponds at that facility (K. Simon, Ironwood Consulting, 2012 pers. comm.). Mortality at the evaporation ponds included entanglement in the netting, drowning, and fence collision. Consistent and frequent monitoring is essential to ensure netting integrity and effectiveness.</p> <p>Citation: K. Simon. Nov. 12, 2012. Email to M. Massar [BLM], L. LaPre [BLM], L. Chow [Ironwood Consulting], C. Slaughter [Ironwood Consulting]. Subject: Avian and Bat Mortality/Injury/Relocation Figure and Tables. Includes attachments: table of avian mortality and injury at Desert Sunlight Solar Farm as of Nov. 12, 2012, and Avian and Bat Injury and Mortality Map.</p>
4.2-75	Please clarify what polarized light pollution is, and what time of day it occurs (e.g., during the day or night).
4.2-75	Please elaborate what is meant by the project having a “mirage effect.” Please tie back to the heliostat field potentially looking like the sky or water.
4.2-76	End of first sentence: Please revise as follows “...present collision risks for birds or bats, as discussed in more detail below.”
4.2-76	The sentences “Nocturnal visibility of the gen-tie... insects (and feeding bats).” are mostly redundant to information presented subsequently. Please delete.
4.2-76	Please move the sentence “During daylight, the mirrored...commonly strike).” to the bullet describing potential collisions with heliostats.
4.2-76	Second paragraph: Please revise the description of heliostat field from “many large mirrors” to state the actual number of heliostats that would be installed.
4.2-77	<p>Please discuss the second enumerated point under the gen-tie line bullet in more detail. Please tie back to biological conditions on the proposed project site, specifically bird flight in the area, as birds potentially take off from or land at agricultural fields, the Colorado River, or suitable migration stopover habitat in the vicinity of the proposed project site. Please include agricultural fields, not just nearby wetlands, in the discussion.</p> <p>Site-specific conditions such as these increase the risk of bird injury or mortality from the proposed project, due to increased probability of exposure compared to other locations in the desert. Only the site-specific factors that decrease risk to birds are discussed here, potentially biasing Staff’s determination of significance. Please discuss the factors raised in this comment, and how they do or do not affect Staff’s determination.</p>
4.2-77	Please account for the low detectability of bat mortality when describing bat collisions with transmission lines in the gen-tie bullet.
4.2-77	Please cite any evidence that supports Staff’s conclusion that the “most likely” collision risk for bats is from project vehicles and defend this likelihood determination. If this type of mortality for bats has not been documented, please

	explain Staff's rationale.
4.2-77 4.2-87 4.2-107 4.2-108	<p>Please discuss bird injury or mortality from collision with project fencing. This has occurred on other utility-scale solar projects in the I-10 corridor. Therefore, please include a measure in proposed condition of certification BIO-5 that would require project fencing to be designed in a way to be visible to birds and minimize the risk of collision and injury.</p> <p>For suggestions, please see studies conducted on fence marking in grouse habitat. For example: Christiansen, T. 2009. Fence marking to reduce greater sage grouse (<i>Centrocercus urophasianus</i>) collisions and mortality near Farson, Wyoming – summary of interim results. Wyoming Game and Fish Department. Stevens, B.S. 2011. Impacts of fences on greater sage-grouse in Idaho: Collision, mitigation, and spatial ecology. M.S. Thesis, University of Idaho. Wolfe, D.H., M.A. Patten, and S.K. Sherrod. 2009. Reducing grouse collision mortality by marking fences (Oklahoma). <i>Ecological Restoration</i> 27(2):141-143.</p>
4.2-77	Please clarify what is meant by “undocumented” birds. We assume it to mean birds not detected during mortality monitoring.
4.2-77	Please add discussion of carcass detectability to the last paragraph on the page. For example, please add “detected” to the sentence “The bulk of <i>detected</i> bird mortality...”
4.2-78	Table 11: Please specify whether the acreages considered in the “Acreage/MW” column refers to the total project acreage or the acreage of heliostat field.
4.2-78	Last paragraph: Please specify how much shorter the heliostats at the proposed project would be compared to Solar One. Please also describe the rationale connecting heliostat height with the probability of bird collisions. Please describe both the applicant's rationale in asserting this would reduce collision hazard, and Staff's rationale that collision risk is more likely a function of total area of mirror surface than heliostat height.
4.2-79	In the first paragraph, please revise Staff's word choice about projected, estimated, and predicted bird mortality rates. A projection requires the most data, because it relies on knowledge of existing trends. Predictions require data and observations, but not knowledge of trends. Estimations are best guesses, and do not require grounding in data, observations, or trends. The sentence that extrapolations of mortality rate are intended as “rough projections” and “not...estimated or predicted mortality rate” thus does not make sense. Please clarify.
4.2-79	Please clarify why further consideration and variables “may” imply overestimation or underestimation. The factors presented either imply overestimation or imply underestimation.
4.2-79, 4.2-86	Second bullet (4.2-79), third bullet (4.2-86): Please revise as follows: “No incidentally or anecdotally observed [collision][radiant energy flux] mortality at BrightSource's SEDC project.”

4.2-79,	To reflect the previously presented argument about heliostat height, please add a bullet to the list of factors likely leading to overestimation of mortality that describes the lower heliostats at the proposed project than Solar One.
4.2-79,	Third bullet: Please revise as follows: "...reflective surface rather than size of individual heliostats."
4.2-79, 4.2-86	Please add a bullet to the list of factors likely leading to an underestimation of mortality that describes birds taking off and landing in the vicinity. See previous comment (4.2-77) about bird behavior, habitat use, and project location.
4.2-79, 4.2-86	Please tie the list of factors likely leading to an underestimation of mortality back to project location. For example, when describing proximity to wintering waterfowl habitat and refuges (third bullet), please add "i.e., at and near the Colorado River, approximately 4 mi away."
4.2-80, 4.2-86	Please add a bullet to the list of factors likely leading to an underestimation of mortality that Solar One was graded, where the heliostat field at Rio Mesa would maintain some native vegetation. While this is desirable for multiple reasons, it may support greater insect abundance and diversity on the project site, which in turn may lead to greater avian use of the project site.
4.2-81	Second paragraph, sentence that describes an object placed in the path of reflected energy: Please revise as follows: "An object, such as a bird, located in the path of reflected energy..."
4.2-81	Table 12: Please acknowledge that effects due to bird size and coloration are not included, which thus presents an oversimplified view of BrightSource Energy's (BrightSource) findings.
4.2-82	Sentence starting with "And damage to insulating feathers." Please revise as follows: "...thermoregulation (body temperature control) in nature."
4.2-82	Second paragraph, first sentence: Please revise as follows: "13 of the bird carcasses detected (19 percent)..."
4.2-82	It is unknown whether aerial foragers' higher risk of burning observed in the McCrary et al. (1986) study was due to their feeding behavior (as attributed in the paper) or these species' relative abundance in the area. Please add this to the second paragraph.
4.2-82	Please insert a sentence immediately before the last sentence of the second paragraph that connects bird injury to the likelihood of mortality. In other words, please discuss the low probability of survival for any injured bird that may fly beyond site boundaries.
4.2-82	Third paragraph, second sentence: Please revise as follows, to account for the impact of size on observed effects of flux exposure: "Carcasses of three different-sized species (chickens..."
4.2-82	Please explain Staff's rationale that the type of feather and tissue damage observed in BrightSource's study would be "likely to kill" living birds.
4.2-82	Please add a sentence following the third sentence of the last paragraph that water loss and/or feather deformation are irreversible once it occurs.
4.2-83	Third paragraph, second sentence: Please revise as follows: "For human eyes, the maximum permissible exposure (MPE)..."

4.2-83	Third paragraph: Please provide citations for the human MPE levels described here. Please discuss the consequences for human eyes if exposed for longer than the identified MPE thresholds. Please specify if temporary or permanent blinding is expected, if discomfort is experienced, and any other relevant details.
4.2-83	Third paragraph, third sentence: Please revise as follows: “The Rio Mesa SEGF would concentrate sunlight at much higher radiant flux values than these (i.e., up to 600 kW/m ²).”
4.2-83	Please describe why Staff believes that birds may be at risk of eye damage or permanent blindness.
4.2-83	<p>Please list the known and suspected variables pertaining to expected avian ocular impacts, and how those relate to Staff’s analysis and conclusions. See general comments.</p> <p>For example:</p> <ul style="list-style-type: none"> A. Flight over and near the heliostats: How do the effects of oblique and direct exposure of reflected sunlight and flux differ from one another? What is the volume of airspace within which the potential for eye injury or blindness occurs, and how does that compare to the zone of increased flux? B. Eye damage risk: Is eye damage risk higher “especially near the SRSGs”: How does proximity to the SRSGs relate to the risk of blinding or eye injury, and at what scale is this relevant (i.e., closer/farther from the tower within the volume of increased flux, or closer/farther across the project site generally)? C. What types of vision damage are suspected and/or probable to occur from exposure to the project? Is anticipated damage short- or long-term, additive, or permanent, and what physiological and ecological effects does eye damage have on the bird’s behavior and survival? At what point would eye injury likely result in immediate or delayed mortality, and would the bird be expected to die on- or off-site? D. What are the anticipated effects from one-time (acute) versus cumulative (chronic) exposures? Please explain differences in biology and ecology for acute and chronic exposure. E. When would damage to peripheral vision (i.e., differences in effect to central and temporal fovea) be expected, and what are the implications of that for bird behavior and mortality? What is the volume of airspace within which potential adverse effects to vision may occur?
4.2-83	Please consider the different anatomy, physiology, and function of different avian eyes when addressing the comment immediately above. Eye structure varies enormously by species. Different species have different placement of the central and temporal fovea (retina structure) to optimize movement detection, scanning, detail view, and binocular vision, according to differing life history needs among species.
4.2-83	Please discuss the implications of any ocular damage, including blinding or cumulative effects to avian eyes.
4.2-83	Please provide a figure that depicts the “complex” volume within which elevated

	radiant flux levels would occur.
4.2-84	Please justify the determination that exposure to 25 kW/m ² would cause significant damage to flight feathers, eyes, or skin, and clarify whether Staff believes this is the threshold at which such injury and/or mortality would occur. Please reconcile this statement with the 4 kW/m ² potentially lethal threshold described in Appendix BIO1. Please acknowledge the unknowns and uncertainty involved, as done in Appendix BIO1, or refer the reader to that appendix.
4.2-84	Please discuss the difficulties of detecting birds that fly off-site or otherwise die “within a few days” of flying over the site. Please address how Staff proposes the applicant monitor, detect, measure, or otherwise be accountable for these impacts.
4.2-84	Third paragraph: Please discuss the unknown variables pertaining to anticipated bird behavioral response to the facility. Please identify any assumptions used in developing the effects analysis, and their basis. The Service is not aware of any peer-reviewed literature that would illustrate bird behavioral responses to power towers, and the effectiveness of those responses at avoiding impact.
4.2-84	Fourth paragraph: Please identify all assumptions used to develop flight times and speeds. Please include the assumption of straight-line flight path, and constant flight speed. Please discuss that flight speeds, flight paths, behavior, size, and coloration vary with species, and may affect the relative risk to different species from exposure to flux.
4.2-84	Fourth paragraph, last sentence: Please define “hazardous” and specify what risks are considered, including mortality and different types of injury.
4.2-84	Last paragraph: Please mention the process of seeking a take permit pursuant to BGEPA, in order to provide context to the discussion of the Service’s wind energy risk assessment model.
4.2-85	The first sentence on the page states that discrepancies between modeled and actual fatalities are “probably” attributable to the difficulty of accounting for local topographic conditions or eagle flight behavior. Please identify whether this conclusion is from the cited papers (e.g., de Lucas et al 2008; Ferrer et al. 2011) or is Staff’s conclusion. If the former, please move the citations to the end of the sentence. If the latter, please explain or delete. Please also acknowledge that the discrepancy may be attributable to survey effort and imperfect surveyor detection.
4.2-85	Second paragraph: Please state why Staff considers impacts to bats from concentrated solar energy unlikely and why it is expected that bats would avoid the SRSGs and other project components.
4.2-85	Please explain why Staff believes that the relative surface of heliostats is the best available proxy for hazardous airspace at each project, when extrapolating from Solar One.
4.2-84 4.2-85	The potentially significant effect Staff expects from radiant energy flux, coupled with the lack of information that would lead Staff to be able to quantify expected bird mortalities, underscores the importance of including robust monitoring of operational impacts, should the project be approved and built. Please discuss the need for monitoring of post-construction, operational impacts. Given the large number of unknowns about this technology’s biological impacts, robust monitoring over

	multiple years of operation is critical to validate Staff assumptions, gather data about project impacts, and inform adaptive management decisions.
4.2-85	End of the third paragraph: Please refer the reader to proposed condition of certification BIO-12.
4.2-86	Please discuss observed patterns of avifauna movement across the project site. Migrating avifauna move north-south across the project site. Avifauna using the project site and its vicinity as stop over habitat may move east-west across the site to access the river and agricultural lands to the east. In addition, some bird species, such as mourning and white wing doves, move east-west across the project site during daily movements from the desert, where they nest, to the agricultural lands and river area, where they feed and obtain water.
4.2-86	In the first sentence of the evaporation ponds subsection, please replace “waterfowl” with “all birds.”
Global, including 4.2-87	Collisions subsection, first paragraph: Please note that the Service’s comments on any BBCS written for the proposed project are recommendations, not requirements. Please ensure this language is reflected throughout the document.
4.2-87	Collisions subsection, first paragraph, last sentence: Please clarify whether Staff is requiring up-front implementation of described “remedial actions,” or if they would be included as part of an adaptive management framework described in the BBCS.
4.2-87	Collisions subsection, third paragraph: Please relate monitoring of operational impacts to the list of unknowns pertaining to impacts associated with implementing this technology at the scale proposed for this project. See comparable comments for flux impacts, 4.2-84-85.
4.2-87 4.2-88	Data Request 44 asked the applicant to conduct a minimum of one full year of bird surveys. The PSA does not include a full year of general bird survey results and at least 2 years of bald and golden eagle studies that we have recommended since agency coordination began in 2010. Under the current Committee-ordered timeline, the Final Staff Assessment would be published prior to completion of those surveys. As a result, we are concerned that insufficient data are available to conduct an adequate mortality risk model or impact analysis. Please discuss in the FSA the implications of the lack of these results for the impacts analysis and Staff conclusions.
4.2-88	First paragraph: Please clarify to what Staff refers when mentioning “further analysis.”
4.2-88	Concentrated solar energy subsection: Please discuss the implications of conclusions presented for implied compliance with applicable LORS.
4.2-89	Please specify what is meant by “unique features” that may support localized populations of special-status invertebrate species.
4.2-90	Second paragraph: Please update Couch’s spadefoot toad data to reflect occurrences located during the summer 2012 monsoons, including occurrences at the Genesis Solar Energy Project and in the vicinity of the Colorado River Substation.
4.2-93	Desert tortoise section, first paragraph: Please revise to reflect Murphy et al. 2011, and the recognition that the listed entity is distinct from desert tortoise populations east of the Colorado River (the Sonoran population). The listed entity is considered

	<i>Gopherus agassizii</i> . Please also revise the third sentence as follows: "...recent evidence recognizes them as a distinct species..."
4.2-95	<p>Ravens have now been observed predating on adult desert tortoises (Walde et al. 2012). To reflect this, please delete "juvenile" from the sentence beginning "Juvenile tortoises are vulnerable to predation..."</p> <p>Citation: Walde, A. D., A. P. Woodman, W. Boarman, T. Esque, K. Nussear, K. Drake, and K. Berry. 2012. "Documentation of predation on adult desert tortoises," white paper based on work at Ft. Irwin.</p>
4.2-95	<p>Second paragraph: Please insert at the end of the paragraph the following: "To maintain population and genetic connectivity, it is essential that habitat linkages between and among populations (i.e., within and among recovery units and designated critical habitats) are conserved. For gene flow to occur across the range, populations of desert tortoises need to be connected by areas of occupied habitat that support sustainable numbers of reproductive individuals. Recent research provides evidence that genetic differentiation within the Mojave population is consistent with isolation by distance in a continuous-distribution model of gene flow. Populations at the farthest extremes of the distribution are therefore the most differentiated and a gradient of genetic differentiation occurs between those populations, across the range of the species (Britten et al. 1997; Edwards et al. 2004; Murphy et al. 2007; Hagerty and Tracy 2010). Genetic analyses also suggest that levels of gene flow among subpopulations of desert tortoises were likely high, corresponding to high levels of habitat connectivity (Murphy et al. 2007; Hagerty 2008). In essence, the Mojave population historically represents a series of continuous, overlapping home ranges within suitable habitats whose boundaries between divergent units may be validated by ecological or major topographic features, such as steep mountainous terrain or, even more significantly, the Colorado River (Germano et al. 1994; Service 2008; Nussear et al. 2009)."</p> <p>Citations: Britten, H.B., B.R. Riddle, P.F. Brussard, R. Marlow, and T.E. Lee. 1997. Genetic delineation of management units for the desert tortoise, <i>Gopherus agassizii</i>, in northeastern Mojave Desert. <i>Copeia</i> 1997:523-530.</p> <p>Edwards, T., C.S. Goldberg, M.E. Kaplan, C.R. Schwalbe, and D.E. Swann. 2004. Implications of anthropogenic landscape change on inter-population movements of the desert tortoise (<i>Gopherus agassizii</i>). <i>Conservation Genetics</i> 5:485-499.</p> <p>Germano, D.J., R.B. Bury, T.C. Esque, T.H. Fritts, and P.A. Medica. 1994. Range and habitat of the desert tortoise. Pages 57-72 in R.B. Bury and D.J. Germano (eds.), <i>Biology of the North American Tortoises</i>. National Biological Survey, Fish and Wildlife Research 13, Washington, D.C.</p>

	<p>Hagerty, B.E. 2008. Ecological genetics of the Mojave Desert tortoise. Ph.D. Dissertation. University of Nevada, Reno.</p> <p>Hagerty, B.E., and C.R. Tracy. 2010. Defining population structure for the Mojave desert tortoise. Conservation Genetics. DOI 10.1007/s10592-010-0073-0.</p> <p>Murphy, R.W., K.H. Berry, T. Edwards, and A.M. McLuckie. 2007. A genetic assessment of the recovery units for the Mojave population of the desert tortoise, <i>Gopherus agassizii</i>. Chelonian Conservation and Biology 6:229-251.</p> <p>Nussear, K.E., T.C. Esque, R.D. Inman, L. Gass, K.A. Thomas, C.S.A. Wallace, J.B. Blainey, D.M. Miller, and R.H. Webb. 2009. Modeling habitat of the desert tortoise (<i>Gopherus agassizii</i>) in the Mojave and parts of the Sonoran deserts of California, Nevada, Utah, and Arizona. U.S. Geological Survey Open-file Report 2009-1102. 18 pp.</p> <p>U.S. Fish and Wildlife Service (Service). 2008. Draft revised recovery plan for the Mojave population of the desert tortoise (<i>Gopherus agassizii</i>). California and Nevada Region, Sacramento, California.</p>
4.2-97	First sentence: Please specify what the expected sources of injury or mortality of desert tortoises along the transmission line during construction would be.
4.2-97	First full paragraph, first sentence: Please revise as follows: “During construction of generation facilities and transmission line structures, and possibly during operation...”
4.2-97	Second paragraph, first sentence: Please revise as follows: “For tortoises near but not within the generation site...”
4.2-97	Indirect effects to desert tortoise section, first paragraph: Please add evaporation ponds and construction water sources to the list of common sources of subsidies for predators.
4.2-97	Indirect effect to desert tortoise section: Please discuss nonnative plants, fire regime, and disease exposure.
4.2-100	When discussing the impacts of proposed conditions of certification on desert tortoises, please include BIO-1, including the Designated Biologist, Authorized Biologist(s), and Biological Monitors.
4.2-100	Please add a sentence that all handling of desert tortoises, including but not limited to translocation, would be conducted in accordance with the BO and associated plans.
4.2-101	Please remove consideration of the applicant’s proposed land use in evaluating the current, baseline habitat characterization.
4.2-103	Please incorporate spring 2012 survey results into the sections on special-status birds.
4.2-104	Golden eagles forage in the valleys and flat lands surrounding the mountains that provide suitable nesting habitat. Please revise the sentence that starts “The mountain ranges to the north...” accordingly.
4.2-104	Fourth paragraph: Please add that foraging eagles may also include the resident pair.

4.2-104	The definition of disturb is “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” [50 CFR 22.3]. Consequently, loss of foraging habitat to a degree that affects productivity would constitute take. Please discuss project impacts in this light.
4.2-105	Please identify where Topoc Marsh is in relationship to the project site.
4.2-105	Please articulate the distinction between a determination of significance and take, either quantitatively or with citations and associated explanation. Please clarify why Staff considers loss of habitat to be significant but not rise to the level of take. Please explain the applicant’s rationale that no eagle take is likely to result from the project, and provide the counterarguments that lead to Staff’s conclusions. Please discuss what Staff anticipates eagle behavior would be around the project site, and how that influences Staff’s determinations.
4.2-105	Please add a paragraph under the habitat loss subsection that states, as implied elsewhere, that there is no suitable bald eagle foraging or nesting habitat on-site, and Staff’s conclusions about impacts to bald eagles.
4.2-105	Operational impacts subsection, third sentence: Please revise to state that the project has the potential to take one or more bald <i>and/or</i> golden eagles over the life of the project.
4.2-105	Please include discussion that golden eagles may be attracted to the project site to scavenge on the carcasses of any other birds killed due to exposure to concentrated solar energy, thereby increasing their own exposure to project-related threats.
4.2-106	Please see comments on proposed condition of certification BIO-16, regarding the Golden Eagle Nest Monitoring Plan.
4.2-106	We recommend post-construction monitoring eagle use of the project site and surrounding landscape for a minimum of 3 years during operations and maintenance, and increase monitoring intensity and duration if initial efforts indicate that take of eagles may be occurring. See comments on BIO-16.
4.2-107	Please justify the conclusion that the project would have a “minimal or negligible” impact on foraging habitat. Please describe what constitutes suitable habitat, and compare that to existing conditions on the project site.
4.2-107	Please explain why Staff determined that any take of a Swainson’s hawk would be significant according to CEQA.
4.2-107	Staff states that prairie falcon biology is “much like” that of golden eagles. Please describe the aspects of prairie falcon foraging behavior (i.e., cruising at low altitude [~10-12 feet above ground]) that are substantially different from golden eagle foraging behavior. Please discuss the resultant risk of prairie falcon collision with project security fencing. See comment for 4.2-77.
4.2-110	Please explain how the applicant determined observed western burrowing owls were not resident birds, and if Staff agrees with that conclusion.
4.2-111 4.2-194	Please justify the use of 300 acres as an estimated home range size for burrowing owls. Burrowing owl home range sizes in optimal habitat (irrigated grasslands or

	<p>alfalfa) range from 279 to 596 acres (Haug and Oliphant 1990; Rosenberg and Haley 2004; Gervais et al. 2003). Home range size, or the area needed to support foraging, is likely larger in desert scrub because of the sparse prey base.</p> <p>Citations:</p> <p>Gervais, J.A., D.K. Rosenberg, and R.G. Anthony. 2003. Space use and pesticide exposure risk of male burrowing owls in an agricultural landscape. <i>The Journal of Wildlife Management</i> 67(1):155-164.</p> <p>Haug, E. A. and L.W. Oliphant. 1990. Movements, activity patterns, and habitat use of burrowing owls in Saskatchewan. <i>The Journal of Wildlife Management</i> 54(1):27-35.</p> <p>Rosenberg, Daniel K., and Katherin L. Haley. 2004. The ecology of burrowing owls in the agroecosystem of the Imperial Valley, California. <i>Studies in Avian Biology</i> 27: 120-135.</p>
Global, including 4.2-113	<p>Please note that smaller raptors are also susceptible to electrocution, depending on the type of power pole (Lehman et al. 2007; Lehman et al. 2010). Please discuss in Staff's determination of significance.</p> <p>Citations:</p> <p>Lehman, R.N., P.L. Kennedy, and J.A. Savidge. 2007. The State of the Art in Raptor Electrocution Research. <i>Biological Conservation</i> 136(2):159-174.</p> <p>Lehman, R.N., J.A. Savidge, P.L. Kennedy, and R.E. Harness. 2010. Raptor electrocution rates for a utility in the intermountain western United States. <i>Journal of Wildlife Management</i> 74(3):459-470.</p>
4.2-113	Gila woodpecker subsection, first paragraph: Please provide citations when describing habitat preferences.
4.2-114	Please explain why Staff concludes that impacts to Gila woodpecker from habitat loss would be less than significant under CEQA.
4.2-115	Sentence that begins "Taken together, Staff concludes..." Please revise as follows: "Taken together, Staff concludes that these conditions of certification are feasible and effective and that their implementation would avoid any potential take during construction of these species..."
4.2-115	Last full sentence: Please explain why Staff does not expect that habitat impacts from project construction would "meaningfully affect" special-status migratory and wintering birds.
4.2-117	<p>Obtaining nutritionally adequate forage is likely more important to burro deer habitat preferences than protection from predators. Please delete or qualify in accordance with the citation; dense vegetation would only protect from non-sit-and-wait predators, which are not the primary predators of burro deer (e.g., mountain lions).</p> <p>Please briefly summarize what is known about burro deer use of the project site and</p>

	<p>vicinity. Project survey methodology did not include track surveys on the existing access roads around and throughout the project site (i.e. the powerline road that runs north-south along the project site), which would have demonstrated the numbers and frequency of deer crossing the project site (G. Mulcahy, pers. comm. 2012). However, burro deer and their sign have been observed regularly along the Palo Verde Mesa and its base, and several deer poached in the vicinity of Bradshaw Trail and the project site, (G. Mulcahy, pers. comm. 2012).</p> <p>Please discuss the importance of the project vicinity for burro deer connectivity. Given the expansive spatial requirements needed to sustain wide-ranging populations of large mammals within a resource-limited environment, the loss of thousands of acres of high value woodland habitat onsite, and loss of habitat connectivity to key resources offsite, would be difficult to offset because the loss of habitat and displacement of burro deer from the project site would result in a net decrease to the range-wide resource base and carrying capacity of the herd (Heffelfinger <i>et al.</i> 2006),</p> <p>Please discuss the relative importance of the project site for burro deer access to the Colorado River and water in agricultural ditches. The project site is important to burro deer in part because microphyll woodlands on the mesa connect desert habitats to the adjoining agricultural lands along the river in the Palo Verde Valley. These agricultural lands provide one of the few remaining sources of food and water along the floodplain.</p> <p>Citation: Mulcahy, G. [CDFG], J. McKeever [CDFG], S. Sharma [CDFG], P. Sorensen [Service], and N. Marks [Service]. Pers. comm. November 27, 2012. Phone call to discuss project impacts from the Rio Mesa project, and the PSA for that project.</p>
4.2-120	If relocation methods for kit foxes are documented to be effective for badger relocation, please cite or describe; if not, please explain Staff's rationale in proposing this measure.
4.2-121	Desert wash microphyll woodland identified as productive foraging habitat for bats is present in the region and on the project site. Given that elimination of this habitat is identified as one of the adverse effects in the region, please address cumulative effects of loss of this habitat from the project.
4.2-123	First sentence: Please describe the likelihood that key species of interest would use the identified lands that would remain after construction. Please include discussion of habitat suitability. For example, the habitat east of the project is less suitable for desert tortoises than the project site. Please revise accordingly the discussion of movement opportunities that would remain after construction of the proposed project. Please also add discussion of the ways in which development on the scale of the proposed project would adversely affect the ability for landscapes to shift and accommodate climatic and other change over time.
4.2-123	For desert tortoises, movement among habitat regions is generally less meaningful

	<p>than maintaining sufficient suitable habitat to support continuously overlapping home ranges. In other words, for gene flow to occur across the range, populations of desert tortoises need to be connected by areas of occupied habitat that support sustainable numbers of reproductive individuals. Evidence from desert tortoise population genetic studies and distribution indicates that individual desert tortoises breed with their neighbors, those desert tortoises breed with other neighbors, and so on. The movements that maintain genetic diversity across populations occur over generations and not necessarily during the life span of a single desert tortoise. Therefore, for gene flow to happen reliably, populations need to be connected across the range by occupied areas of habitat linkages that support sustainable numbers of desert tortoises. Please revise the discussion of desert tortoises in habitat “corridors” to reflect the above.</p>
4.2-123	<p>Please explain why Staff believes that burro deer and other large mammals would adapt to the changed land use and move their east to west movements to be north or south of the proposed project. Woodland cover and water availability are the two most important resources that determine burro deer distribution and movement; deer that do not learn how to access historically-used water sources by going around the project site (for example between the Mule Mountains and water in the agricultural ditches to the east) may face increased risk of mortality or predation (G. Mulcahy, pers. comm. 2012).</p> <p>Citation: Mulcahy, G. [CDFG], J. McKeever [CDFG], S. Sharma [CDFG], P. Sorensen [Service], and N. Marks [Service]. Pers. comm. November 27, 2012. Phone call to discuss project impacts from the Rio Mesa project, and the PSA for that project.</p>
4.2-124	<p>Please note that Staff’s definition of cumulative effects differs from that in the Service’s eagle conservation planning guidance. This is important to the Service with regard to any potential eagle take permit application, analysis of the potential for take, and the ramifications of that take.</p>
Global, including 4.2-125	<p>Please biologically justify the use of the NECO planning area as the scale for evaluation of cumulative effects. Please explain how the choice of this area relates to what is biologically meaningful for individuals and populations of the species under consideration. In each cumulative effects subsection, please biologically justify the area used to evaluate the significance of cumulative effects.</p>
4.2-126	<p>In the paragraph between bullet lists, please define the “general vicinity” of the proposed project, and how that relates to the NECO planning area defined as the area within which cumulative effects are considered.</p>
4.2-126	<p>Please add to the list of cumulative projects: Blythe Airport Solar Energy Project, Blythe Mesa Solar Energy Project, McCoy Solar Energy Project, Palen Solar Energy Project, Palo Verde Mesa Solar Energy Project, Rice Solar Energy Project, and Sonoran West Solar Generation Facility. Please also consider projects in Arizona, including a proposed power tower project north of Quartzite, Arizona, that are within a comparable distance from the proposed project as those already considered in the</p>

	PSA.
4.2-127	Please provide the rationale that supports Staff's conclusion that cumulative effects of renewable energy projects to vegetation communities in the NECO planning area are "considerable."
4.2-127	Last paragraph, first sentence: Please revise to emphasize the unforeseen effects. Proposed conditions of certification BIO-1 through BIO-8 would minimize project impacts to biological resources, and minimize the probability of <i>unforeseen</i> effects (i.e., by placing habitat under permanent conservation, unforeseen projects cannot use that land for development). However, these proposed conditions of certification do not minimize cumulative loss (i.e., decrease the net loss currently expected from the list of past, present, and reasonably foreseeable projects).
4.2-127	Proposed conditions of certification BIO-7 and BIO-19 also minimize cumulative effects of the proposed project. Please add discussion of these conditions to this section.
4.2-128	Please explain Staff's reasoning that supports the conclusion that the contribution of the proposed project to loss of native vegetation and wildlife habitat is not cumulatively considerable.
4.2-129	Please address the ecological significance of cumulative effects to desert dry wash woodlands. Please relate to the habitat values described in comment 4.2-25 and 4.2-49. Please include explanation of the biological significance of the region within which Staff considers it appropriate to seek mitigation parcels. Please justify how the area within which acreage would be acquired mitigates the biological effects of the project. See general comments in our cover letter for additional detail. We recommend that all mitigation occur within the range of burro deer, not within the larger NECO Plan area.
4.2-129	Please explain how Staff would determine whether cumulative impacts to jurisdictional waters remain cumulatively considerable if 3:1 mitigation for these impacts is determined to be infeasible because of the lack of willing sellers or available lands for acquisition.
4.2-130	First paragraph, last sentence: Please identify which projects are being referred.
4.2-130	Potential effects from the project, second paragraph: Please add introduction of nonnative plants and changes in the fire cycle.
4.2-130	Please add proposed conditions of certification BIO-1 to the list of measures that would avoid and minimize impacts to desert tortoises.
4.2-131	<p>Please identify what the scope of cumulative effects analysis for golden eagles is. We recommend using a 140-mile radius around the project, in accordance with the juvenile dispersal distance and definition of a local area population of golden eagles (Service 2009).</p> <p>Citation: U.S. Fish and Wildlife Service. 2009. 50 CFR Parts 13 and 22: Eagle Permits; Take Necessary To Protect Interests in Particular Localities; Final Rules.</p>
4.2-131	Golden eagle subsection, first paragraph, last sentence: Please revise as follows: "The cumulative loss of golden eagle foraging habitat throughout the region may

	result in abandonment of nesting territories or non-reoccupation of otherwise suitable and historically used territories.”
4.2-132	Please see comments on proposed condition of certification BIO-16, regarding the Golden Eagle Nest Monitoring Plan.
4.2-132	Please discuss the cumulative effects expected from all proposed power tower projects within the area considered. In the lower Chuckwalla Valley, at least three additional right-of-way applications on BLM lands are being evaluated for construction and operation of power-tower technology. One additional project in neighboring Rice Valley has been approved but not yet constructed. In addition, several other power-tower projects are being proposed along the Colorado River, including in Arizona, where another such project is proposed just north of the town of Quartzsite. Build-out of these six proposals (including the proposed project) would entail multiple towers per project, likely resulting in twelve or more power towers within a 40-mile radius, all with the absence of any substantive data on the many potentially lethal physiological effects associated with the technology as discussed here, in the PSA, and in the CEC docket. Cumulative effects to migratory birds, regional bird communities, eagles, and other wildlife increase as the number of solar development proposals proliferates. If all or a portion of these proposals are approved, the cumulative effects/take levels from power-tower projects likely would become significant for many species.
4.2-134	Please reword or clarify what is meant by species expected to use the site “regularly but uncommonly.”
4.2-141	Bullet 1, first sentence: Please revise as follows to accurately reflect the referenced REAT request: “...requested that the applicant provide at least a full year of bird and bat surveys...”
4.2-141	Bullet 3, first sentence: Please revise as follows: “Clarification of the total acreages of permanent and temporary, direct and indirect impacts by vegetation type and by project feature (e.g., construction laydown area, heliostat field, power block, etc.)...”
4.2-143	Please clarify what is meant by “specific agency policies” and how those relate to requirements for the Designated Biologist.
4.2-143	Please clarify what is meant when Staff says requirements for the Designated Biologist may be adjusted over time to reflect the “status of special-status species in the vicinity.”
4.2-143	Please clarify what is meant when Staff states the Designated Biologist may also be “assigned” as a desert tortoise Authorized Biologist. The Service retains approval authority for Authorized Biologists, in accordance with any biological opinion issued for the proposed project and our most recent desert tortoise guidance.
4.2-143	In the paragraph before the bullets delineating the duties of the Designated Biologist, please delete “construction-related.” We recommend having a Designated Biologist on-site during any ground disturbance, grading, boring, or trenching activities, regardless of the phase of the project.
4.2-143	Bullet 3, second part: Please revise the Designated Biologist responsibilities. For example, the Designated Biologist should ensure proper implementation of all conditions of certification and any other relevant biological resource measures (i.e.,

	those in the biological opinion and/or Final environmental impact statement).
4.2-143	Bullet 4: Please delete “verbal or”; updates should be provided in writing.
4.2-143	The Service does not need to be provided weekly updates. Please provide us quarterly reports on project construction, as well as notification, within timeframes designated elsewhere, of any reports of mortality or injury of a federally-listed species.
4.2-144	Bullet 6: Please add “familiarity with the other requirements pertaining to biological resources, including those of the biological opinion and EIS.”
4.2-144	Bullet 8: Please revise as follows “...of any non-compliance with any biological resources condition of certification, biological mitigation measures or permit conditions.”
4.2-144	Bullet 11: We recommend revising as follows: “Conduct continuous compliance inspections throughout the initial site preparation activities, including but not limited to, the installation of desert tortoise exclusion fencing, pre-construction clearance surveys, and initial clearing, grubbing, grading, mowing, and other site preparation activities. Provide weekly reports per bullet 4 to the CPM and BLM. After initial clearance, conduct monthly compliance inspections of all project activities throughout the construction and decommissioning phases of the project, and provide monthly compliance reports per bullet 12.”
4.2-144	Please specify the time period over which the Designated Biologist would be responsible for preparing and submitting monthly compliance reports.
4.2-144	Bullet 13: The Service requests quarterly (vs. weekly) reports. See above comment. Also, please add “BLM, CDFG, and FWS” to the list of agencies receiving reports.
4.2-144	Bullet 14: Please delete as it is redundant with bullet 6.
4.2-144	Bullets 14 and 9: Please clarify distinction between the two; if redundant, please delete one or consolidate.
4.2-144	Please add a bullet to the list of duties and responsibilities of the Designated Biologist that states: “Notify the CPM, BLM, CDFG, and FWS at least 14 days prior to the initiation of ground-disturbing activities.”
4.2-144	Please add a bullet to the duties and responsibilities of the Designated Biologist that states: “During the operations phase of the project, conduct quarterly compliance inspections, conduct weed monitoring and control (per BIO-7), and prepare and submit quarterly compliance reports and any other reports required in the conditions of certification to the CPM, BLM, CDFG, and FWS.”
4.2-144	Bullet 16: The Service should be notified verbally immediately, and in writing within 5 days of an incident that results in injury or mortality of a listed species. To the extent known, written or verbal notification should include the date, time, and location of the incident; number of discovered specimens; cause of injury or death; and any other pertinent information. Injured animals, if deemed treatable, should be transported under humane conditions to a qualified veterinarian or certified wildlife care facility, with the Service apprised of the final disposition. Care must be taken in handling sick or injured individuals to ensure effective treatment and care can be administered, and in handling dead specimens to preserve biological material in the

	best possible state. The finding and relevant details should be immediately reported to the Service.
4.2-145	<p>Please note that the Service approves Authorized Biologists on a project-by-project basis, pursuant to the biological opinion for each project. Approval for one project does not guarantee approval for other projects. The authorized biologist for a given project must be qualified to implement all tortoise-related measures described in the biological opinion for that project. Conversely, the authorized biologist for a given project need not be qualified to conduct activities that constitute take of a desert tortoise but which are not included in the biological opinion for that project. For example, <i>if</i> the biological opinion finds that drawing blood from tortoises is not necessary for this project, the authorized biologist need not be qualified to do so.</p> <p>Please revise Bullet B accordingly throughout.</p>
4.2-145	First sentence: Please reword to “The project owner shall ensure at least one Authorized Desert Tortoise Biologist is assigned to the project at all times.”
4.2-145	First paragraph, second to last sentence: Throughout the life of the project, at least one authorized biologist should be present whenever any activity that would constitute take of a desert tortoise, pursuant to the federal Endangered Species Act, may occur. This is not limited to handling or translocation. Please revise to state, “...during the life of the project during which take of a desert tortoise may occur, including construction, operation, and post-project closure phases...”
4.2-145	Bullet 1: BIO-9 does not pertain to desert tortoise. Please revise to include the appropriate proposed condition of certification.
4.2-145	Last paragraph, first sentence: Please delete what is in parentheses. Only the authorized biologist should handle tortoises.
4.2-145	Last paragraph, second sentence: Please revise to state, “...shall include all responsibilities described by the USFWS’s biological opinion...”
4.2-146	Bullet 1: Please revise to state, “...familiarity with the conditions of certification, BRMIMP, WEAP, other tortoise measures including those in the biological opinion and EIS, and USFWS guidelines on desert tortoise...”
4.2-146	Bullet 5, first sentence: Please delete “during construction.” A desert tortoise injured from project activities should be taken to a wildlife rehabilitation or veterinarian clinic regardless of the phase of the project.
4.2-146	Bullets 5 and 6: The Service should be notified immediately if any desert tortoises are found sick, injured, or dead in the action area. Immediate notification means verbal (if possible) and written notice within 1 workday, and must include the date, time, and location of the carcass, and any other pertinent information. Care must be taken in handling sick or injured individuals to ensure effective treatment and care can be administered, and in handling dead specimens to preserve biological material in the best possible state.
4.2-146	Bullet 2, last sentence: Biological monitors and an authorized desert tortoise biologist should be on site for all project-related activities that occur outside of desert tortoise exclusion fencing. Accordingly, please delete “ground disturbing.”
4.2-147	Please reword the responsibilities of the desert tortoise monitors to reflect the

	Service's guidelines, available here: http://www.fws.gov/ventura/species_information/protocols_guidelines/index.html
4.2-147	Please include in the duties of biological monitors: -Administer the WEAP (BIO-4); -Clearly mark areas with sensitive biological resources during construction, operations, and decommissioning, and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions, including the conditions of certification; -Inspect active construction or maintenance activity areas where animals may have become trapped prior to construction commencing each day. At the end of each work day, inspect for the installation of structure that prevent entrapment or allow escape during periods of construction activity. -Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way, and relocate them if necessary. If a desert tortoise is found, contact an Authorized Biologist to assist in the tortoise's translocation.
4.2-147	Bullet D: Please revise as follows: "The Designated Biologist, Authorized Desert Tortoise Biologist, and Biological Monitors shall have the authority to immediately stop any activity that is not in compliance with the conditions of certification, minimization measures, and biological permit conditions." Also, revise as follows "...shall halt any site mobilization, ground disturbance, grading, boring, trenching, and construction, operation, or decommissioning activities as specified..."
4.2-148	If the desert tortoise Authorized Biologist is replaced, the Service, CDFG, and BLM should be involved in selecting a replacement. The Service retains authority to approve, on a project-specific basis, Authorized Biologists, pursuant to the biological opinion issued for the project.
4.2-148	Fifth paragraph: Specify what training the Authorized Biologist would provide biological monitors. The Authorized Biologist should be providing training specifically for desert tortoise-related activities. Otherwise, we recommend training be the primary responsibility of the Designated Biologist.
4.2-148	Sixth paragraph: Please revise as follows: "...grading, construction, operation, and decommissioning activities."
4.2-148	Given review by each of the REAT agencies, as well as the stated goal to consolidate in one place all biology-related measures, please include in the Biological Resources Mitigation Implementation and Monitoring Plan (BIO-2) any avoidance and minimization measures included in other permit documents, such as the biological opinion, EIS, and CDFG-CEC MOU pursuant to CESA.
4.2-149	Bullet 4: Please include decommissioning.
4.2-150	Please specify to whom the project owner shall submit the final BRMIMP.
4.2-150	Third paragraph, second to last sentence: Please revise as follows: "...to determine appropriate mitigation for such impacts and if any other actions are needed."
4.2-151	Please include a comparable 30-day notification requirement prior to and following completion of decommissioning.

4.2-152	First sentence: Please revise as follows: "...adjusted up or down to reflect any revised cost estimates recommended by REAT and any change in the acreages of the project description."
4.2-152	Bullet 1a: Please include a more specific requirement for compensatory land acquisition to be protected in perpetuity.
4.2-154	Bullet 4c: Please include consultation with BLM and FWS, in addition to CDFG.
4.2-155	Bullet 2: Please reference a PAR analysis.
4.2-159	Bullet 3a: The mitigation land management plan should be prepared contemporaneously with the PAR, since one document informs the other. Please revise accordingly the timeline for submission.
4.2-161	Bullet 9: Please revise as follows: "report all observations of listed species or their sign to the Designated Biologist or biological monitors..."
4.2-161	Please add a bullet to BIO-4 that states: "Provide contact information for the Designated Biologist and biological monitors for notification of any dead or injured wildlife species encountered during project-related activities."
4.2-162	First sentence: Please specify if the CPM is responsible for any <i>changes</i> to measures, or <i>compliance</i> with all measures, or some other detail.
4.2-162	Bullet 1: Please add "Project personnel should also remain inside delineated disturbance limits." Also, please revise as follows: "...for compliance with regulatory terms and conditions, and document each inspection."
4.2-162	Bullet 4: Biological monitors should also walk ahead of equipment during mowing activities.
4.2-163	Bullet 5: Along the transmission line, all disturbance limits should be flagged. Biological monitor(s) should also be present during any work along the transmission line (i.e., any work conducted outside the area enclosed by desert tortoise exclusion fencing).
4.2-163	Bullet 5, last sentence: Please add "temporary" to the description of desert tortoise exclusion fencing along the gen-tie line.
4.2-163	Bullet 8: Please revise the description of evaporation pond netting to be "no larger than 2-cm square."
4.2-163	Please define "regularly," for monitoring evaporation ponds. We recommend at least daily inspection of the netting.
4.2-163	We recommend netting be suspended a minimum of 5 feet above the water surface.
4.2-163	If water used during construction would be stored in ponds, please implement similar measures as bullet 8 for those ponds, and inspect fill stations regularly for ponding. If construction water would be contained in storage tanks, please inspect regularly for leakage or ponding around the tanks.
4.2-163	We recommend evaporation ponds be lined, to minimize salt build-up in the soil and facilitate long-term restoration.
4.2-163	Bullet 11: Please quantify what is meant by "loud" construction noises.
4.2-164	Bullet 13a: Please revise to reflect that only desert tortoise Authorized Biologists

	approved for this project may handle or relocate a desert tortoise. The Designated Biologist or biological monitors may handle other wildlife; however, if a desert tortoise is trapped, the Authorized Biologist should be contacted immediately and move the individual.
4.2-164	Bullet 13a: The project site would be enclosed by desert tortoise exclusion fencing. Please reconcile.
4.2-165	Bullet 13: Please revise as follows: "...left open, overnight, or for longer than a day."
4.2-165	Bullet 14: Please add "Areas with consistent pooling will be filled within 24 hours to allow drainage and prevent puddles from forming, or the source of the water addressed."
4.2-165	Please specify what data would be collected about the carcass of any special-status species killed on project roads prior to removing it. In the event that a golden eagle carcass is found, the Service and CDFG should be informed immediately. A permit is necessary prior to possession of the carcass. Please note that a migratory bird special purpose utility permit would be necessary prior to possessing any avian carcass.
4.2-165	Please add an additional measure describing data collection and disposition of carcasses found in any part of the project site other than the access roads.
4.2-166	Please note that any pre-project ground-disturbing activities (such as those described here) in suitable desert tortoise habitat could result in take, and therefore should be coordinated with the agencies prior to taking place.
4.2-166	Bullet 20: Please move "outside the permanently fenced area" to follow "all unused material and equipment."
4.2-166	Please include soil decompaction and seeding or replanting in measure BIO-6.
4.2-167	Bullet 3: We suggest revegetation monitoring occur on a quarterly basis for at least three years, to mirror fall and spring plant surveys and capture presence of different species groups.
4.2-168	If a 1-mile radius is the expected radius of effect, this should be described and documented in the indirect effects section, with supporting references or examples from previous projects. Please reconcile the 1-mile buffer with the 500-foot buffer used in 4.2-48.
4.2-168	Bullet 2: Please specify whether the assessment described here is an assessment of individual species that may enter the project site (as implied by current wording) or of potential vectors that may facilitate weed establishment. The latter is both more feasible and more helpful, and could inform the prevention plan described in bullet 3.
4.2-168	Bullet 3: Please specify if the goal is prevention of weed introduction, establishment, spread, or all of the above.
4.2-168	Bullet 4: Please define what is meant by an "appropriate" buffer, and how it relates to the 1-mile radius described in bullet 1.
4.2-168	Bullet 6: Please have treatment of weed infestations occur at least twice annually, to reflect the summer- and winter-seeding species, and to make consistent with proposed condition of certification BIO-9 bullet 6. We recommend immediate treatment if suggested by monitoring observations.

4.2-168	Please qualify the provision for when weed control efforts may cease for any impact site. Revise as follows: "...when no new seedlings or resprouts...weed control efforts may cease for that impact site unless future monitoring documents the return of the infestation, at which point it will be treated as above."
4.2-169	Please note that many species will regrow a second seedhead. Consequently, manual control of these species is unlikely to be effective under the framework above, where treatment occurs once per year. For these species, manual control would require multiple visits in a short time period to any given infestation.
4.2-170	Please add topsoil, gravel, and fill dirt to the bullet delineating resources that shall be weed-free.
4.2-170 4.2-52	<p>Please describe in the relevant indirect effects section how monitoring and control site distances for desert dry wash woodland vegetation were selected, and how these compare to the distance over which groundwater effects may extend. Please compare these distances to the size of the groundwater subbasin, basin, and catchment in which the project is proposed. Please summarize the amount of expected drawdown in each of these areas, and in areas within the expected cone of depression that support groundwater-dependent vegetation. Please describe the types of variables that would be monitored.</p> <p>We recommend locating the control site for vegetation monitoring in an adjacent groundwater subbasin, at a location determined by a hydrologist. Please specify where, in relation to groundwater basin and subbasin boundaries, the control site is proposed.</p> <p>We recommend monitoring of off-site dry wash woodland within the same groundwater subbasin for the life of the project. Because of the life span of desert dry wash woodland plants, the natural occurrence of prolonged drought in the desert, and expected groundwater use, monitoring during construction and three years of operations may not be sufficient to detect the types of stress that may result from groundwater depletion, and would not be sufficient to detect plant mortality.</p> <p>Although deep-rooted desert wash species are groundwater-dependent, subsurface flow and streamflow also contribute to their survival, growth, and reproduction. Consequently, we recommend installation of piezometers in addition to groundwater monitoring wells at the monitoring locations described in proposed condition of certification WATER SUPPLY-4 and BIO-8.</p>
4.2-171	Please add language to bullet 1 or 2 that the DDWWMP should provide a specific description of the protocol to be followed at each monitoring location.
4.2-171	Bullet 3, second sentence: Please revise as follows: "...to interpret the results and determine appropriate adaptive management measures, if any."
4.2-171	Please specify if temporary supplemental watering has been documented to be effective or not. If so, please provide a citation.
4.2-173	Please specify the geographic area within which Staff considers it appropriate to locate mitigation lands. While the effects analysis uses the NECO plan area or

	Desert Tortoise Recovery Unit as the cumulative effects area, these are fairly large areas to constitute “as close as possible” or “surrounding” the project site.
4.2	Please include somewhere in the proposed conditions of certification or elsewhere a table with the preliminary acreages proposed for mitigation lands, by mitigation component (e.g., desert tortoise, desert dry wash woodlands, special-status plants, etc.).
4.2-178	Bullet c, last sentence: Does not state what the strategy would include; please complete the sentence.
4.2-181	The Service should be notified immediately by phone, and in writing within 5 calendar days, if any federally listed threatened or endangered species not addressed in the biological opinion issued for the project is discovered at any time on the project site. Please revise the last sentence of BIO-10 accordingly. Please also reconcile that sentence with the timeframe specified in BIO-12.
4.2-181	We recommend the Nesting Bird Management Plan be incorporated as a separate section into the BBCS.
4.2-181	Bullet b: The last preconstruction clearance survey for nesting birds should be conducted a maximum of 2 to 3 days prior to the start of construction activity. This period reflects the amount of time necessary to build a nest; surveys conducted further in advance of construction thus are less likely to detect all nests on site and allow for the establishment of appropriate buffers. Please revise accordingly.
4.2-182	Bullet e: Relocation of an active nest would be considered take, pursuant to the MBTA. Please delete. Also, nest avoidance buffers for any given species should be consistently applied throughout the construction area. Revision of avoidance buffers should only occur after approval by the CPM and agencies. Please revise accordingly.
4.2-182	Bullet f: Please specify the distance of the buffer around the project site within which nest monitoring would occur. We recommend a minimum 500 foot buffer to raptor nests and 330 foot buffer to all other bird nests, as described earlier in the PSA.
4.2-182	Bullet i: Please clarify what is encompassed by the “specific actions”. Please describe any data to be collected, including photographs, location, nest status, and the buffer implemented.
4.2-182	Please add a bullet that nest surveys would be performed on any equipment or project structures left inactive for a period of greater than 3 days during the construction period.
4.2-182	The Nesting Bird Management Plan should include specific details as to how any disturbance to the nest by nest surveyors would be avoided.
4.2-182	Bullet b: Please provide a rationale for conducting a pre-construction survey for nesting birds approximately 20 days before the start of construction. Performing two surveys likely would increase the percentages of nests detected. However, because nests can be built in 2 to 3 days, data collected in surveys 20 days before construction would be of minimal to no utility. If two surveys are conducted, it would provide more reliable information about the presence of nests on site if the first survey is conducted within 10 days of the start of construction.

	<p>Regardless of if one or two surveys are conducted, the last pre-construction clearance survey for nesting birds should be conducted a maximum of 2 to 3 days prior to the start of construction activity. If only one survey is performed, it should be conducted 2 to 3 days before the start of construction. This period reflects the amount of time necessary to build a nest; surveys conducted further in advance of construction thus are less likely to detect all nests on site and allow for the establishment of appropriate buffers. We similarly recommend that follow-up surveys be conducted in any are if inactivity exceeds 2 to 3 days.</p> <p>Please revise bullet b accordingly.</p>
4.2-183	Bullet c: Please add “and documented”.
4.2-183	Verification section: Please provide the agencies, as well as the CPM, with written descriptions of survey methods and results.
4.2-183	Bullet 1: Please include BLM in review of the monitoring study, as structures and activities associated with the gen-tie are involved.
4.2-183, 4.2-185	Bullet 1: Due to the large number of unknowns (described in our comments, the PSA, and the CEC docket log) about the avian impacts of this technology, as well as cumulative effects concerns, we recommend that the project be monitored for bird injuries and fatalities for the life of the project. A monitoring strategy should be coordinated among the applicant and permitting agencies.
4.2-183	Bullet 2: We agree that preparation of a Bird and Bat Conservation Strategy (BBCS) provides an appropriate vehicle to describe anticipated avian impacts, the extent to which avoidance and minimization of those impacts is feasible, and whether take of bald or golden eagles is anticipated. Please be advised that a BBCS does not constitute a permit for take authorization; therefore, it does not limit or preclude the Service from exercising its authority under any law, statute, or regulation, nor does it release any individual, company, or agency of its obligations to comply with Federal, State, or local laws, statutes, or regulations. However, if a violation occurs, the Service may consider the project proponent’s documented efforts to incorporate and implement the Service’s recommendations. If it is determined that take of bald and/or golden eagles is likely to occur as a result of project implementation, the FSA and conditions of certification should require the applicant to submit an Eagle Conservation Plan (ECP), consistent with Service guidance. This document may serve as the basis for an application for a take permit under BGEPA.
4.2-184	First paragraph, last sentence: Please add, “and 3) any other project components.”
4.2-184	Bullet 2: We recommend the BBCS include a detailed description of monitoring protocol (pursuant to bullet 1), and establish an adaptive management framework for the project. We recommend the Nesting Bird Management Plan (BIO-11) be included as a discrete section of the BBCS. We recommend the BBCS include a detailed protocol for data collection associated with any bird carcasses found on or around the project site, and a detailed description of protocol for carcass disposition. Please include these elements in this bullet.

4.2-184	The Service recommends preparation of an ECP if the applicant intends to pursue an eagle take permit. Otherwise, we recommend treating eagles in discrete subsections of the BBCS.
4.2-184	Bullet 3, first paragraph: We recommend the ECP, or eagle sections of the BBCS, include a description of any other ongoing eagle survey efforts during construction or operations. Also, please specify the time period over which identified surveys of eagle breeding sites within a 10 mile radius of the project site would be conducted. We recommend a minimum of the construction period and at least 3 years of operations.
4.2-184	Please note that the Service recommends any mitigation for take of bald and/or golden eagles be within the same Bird Conservation Region as the proposed project (Service 2011). Citation: U.S. Fish and Wildlife Service. 2011. Draft Eagle Conservation Plan Guidance.
4.2-184	Please justify, here or in the effects section, why Staff selected a 20-mile radius requirement for the inventory of existing electrical distribution lines. Please articulate how this relates to the local golden eagle nesting territories (within 10 miles of the project site) and the local area population of golden eagles (within 140 miles of the project site) and bald eagles (within 43 miles of the project site).
4.2-184	Please identify in the effects section what data are available to support a quantitative determination of the anticipated project-related take, referenced here, for bald eagle, golden eagle, Swainson's hawk, or other large special-status raptors. If supporting data are not available, please explain how Staff anticipates implementing this portion of BIO-12.
4.2-184	Please articulate in the effects analysis Staff's goals and rationale in prescribing 11 power pole retrofits for each large raptor taken by the project. Please allow for implementation of other, additional mitigation if recommended by the agencies or required as part of an eagle permit, if one is needed.
4.2-184	Bullet 3, second paragraph: Please add "The ECP shall include descriptions of any other mitigation measures deemed necessary by the agencies."
4.2-184	Last paragraph, first sentence: Please revise as follows: "...instead move heliostats into a stowed position or another alternative configuration when the power plant is in standby mode or when individual heliostats are not in use."
4.2-184	Please revise the last sentence to be included in the BBCS, not ECP, as the described reporting schedule pertains to all activities related to bird or bat conservation or protection. Please then move this sentence to the end of bullet 2, which describes the BBCS, rather than under bullet 3, describing the ECP. Please add a comparable sentence that the ECP include a reporting schedule for all activities related to eagles.
4.2-185	BIO-13: For specificity, permanent desert tortoise exclusion should be used to effectively exclude desert tortoise from the project site, thereby sufficiently protect them from injury and mortality. Please revise as follows: "...(1) installing permanent desert tortoise exclusion fencing around the solar generator site..."
4.2-186	Bullet 3, first sentence: Please revise as follows: "Permanent desert tortoise

	exclusion fencing shall be installed around the entirety of the project site.”
4.2-187	Bullet d: Disposition of carcasses located within project fencing is not currently described in BIO-5. Please see comment recommending insertion of a wildlife mortality reporting and disposition protocol measure (4.2-165).
4.2-188	Please specify that any temporary desert tortoise exclusion fencing would be removed upon completion of project activities in the area.
4.2-188	Bullet 4: Please substitute “biological monitors” for “project biology staff.”
4.2-189	Please include in BIO-14 a mechanism to adjust compensation acreages to reflect final disturbed and fenced acreages, as described in BIO-3.
4.2-191	Verification section, first sentence: Please notify CDFG, BLM, and FWS, in addition to the CPM, when NFWF has received and accepted payment to the account supporting the regional raven management program. Revise as follows: “...shall provide written notification to the CPM, CDFG, BLM, and FWS that NFWF has received...”
4.2-191	Please justify in the effects section why golden eagle nesting surveys are limited to the construction period. Please also justify why surveys are limited to nesting eagles. Monitoring should also occur at times of the year which will capture eagle use of the area by floaters, subadults, and fledged juveniles of both eagle species. We recommend including at least 3 years of monitoring during the operations phase, because the nature of eagle behavioral response to power towers is unknown.
4.2-192	Please specify late December to early February as the appropriate time to conduct golden eagle courtship and nesting surveys.
4.2-192, 4.2-132	The Golden Eagle Monitoring and Adaptive Management Plan should be developed prior to the start of construction activities and included as part of the BBCS or ECP. The timeline for development of the monitoring/adaptive management plan as proposed here does not allow for implementation of a plan in time to avoid injury or disturbance to golden eagles. The time required to find and fund a contractor to develop a plan that meets agency standards likely would extend long enough past when the eagle(s) were first detected that it would be beyond the nesting season or have missed a substantial percentage of the construction period. Consequently, the plan should be developed and in place prior to the start of construction activities. Please revise bullet 4 and the verification section accordingly.
4.2-192, 4.2-132	Please identify the baseline against which project-related disturbance to eagle behavior would be identified, and which agencies would be responsible for making that determination.
4.2-193	Bullet 1, bullet 3a: Replacement burrows for burrowing owls should be located in one of two locations: either within 100 meters (328 ft) of occupied burrows that would be destroyed by project construction (so individual owls would be most likely to find the replacement burrows), or far enough from the project boundary that foraging burrowing owls would be unlikely to encounter project development. Surveys therefore should quantify and precisely map unoccupied burrows suitable for burrowing owls in two different areas. All burrows within 100 meters (328 feet) of occupied burrows that would be destroyed by project construction should be mapped. Burrowing owls subjected to “passive relocation” (eviction) are not likely to find

	<p>replacement burrows that are located more than 100 meters from their current burrow (Trulio 1997). If refuge burrows are greater than 100 meters from the occupied burrow, it should be assumed that the evicted owls will succumb to predators within a few weeks and lost from the population. We recommend the project mitigate this adverse impact by placing an equal or larger number of burrowing owls and high-quality forage habitat into conservation. Consequently, burrows should be mapped at one or more offsite locations far enough from the planned heliostat array and flux zone such that burrowing owls nesting on the mitigation sites would be unlikely to encounter project development during foraging. These replacement burrows should be located at least 3 kilometers from the nearest project boundary (Rosenberg and Haley 2004; Gervais et al. 2003).</p> <p>Citations:</p> <p>Gervais, J.A., D.K. Rosenberg, and R.G. Anthony. 2003. Space use and pesticide exposure risk of male burrowing owls in an agricultural landscape. <i>The Journal of Wildlife Management</i> 67(1):155-164.</p> <p>Rosenberg, Daniel K., and Katherin L. Haley. 2004. The ecology of burrowing owls in the agroecosystem of the Imperial Valley, California. <i>Studies in Avian Biology</i> 27: 120-135.</p> <p>Trulio, L.A. 1997. Strategies for protecting western burrowing owls (<i>Speotyto cunicularia hypugaea</i>) from human activities. United States Department of Agriculture Forest Service, General Technical Report NC, 461-465.</p>
4.2-193	Bullet 3b: Two artificial burrows are sufficient if preconstruction monitoring of an occupied burrow render a high level of confidence that the burrow is occupied by one unpaired bird, and that brooding females are not present underground with food delivered by their mate. For relocation of breeding pairs and family groups, we recommend providing a replacement complex with a minimum of eight artificial burrows. Burrowing owls shift nests often to escape the heavy build-up of parasites that develop in their tunnel systems, and parents distribute older nestlings among several burrows to protect against predators.
4.2-194	Bullet c: Please revise the nonnative species coverage requirement to apply only to nonnative shrubs and tall semi-woody weeds. Nonnative grasses in the genera <i>Bromus</i> and <i>Schismus</i> benefit burrowing owl foraging.
4.2-193 4.2-195	Bullet 2a: We recommend non-disturbance buffers around any occupied burrow be marked by stakes and flagging, instead of fencing. Predatory birds such as ravens, raptors, and loggerhead shrikes can perch on fencing and predate on burrowing owls as they emerge from burrows.
4.2-196	Please justify in the effects section the use of a 250-foot buffer for desert kit fox dens. Please reconcile this buffer from the introductory paragraph with the 300 to 500 foot avoidance buffer zone described in 1c around any active natal dens found during preconstruction surveys.
4.2-197	Bullet 2: Please explain in the effects section the biological justification for a 10-

	mile qualitative and 1-mile quantitative evaluation area of suitable habitat.
4.2-198	Bullet a: Please specify that the project proponent be fiscally responsible for the veterinary care of any injured animal.
4.2-199	Bullet c: To ensure most effective exclusion of desert tortoises from the project site, revise as follows: “The desert tortoise exclusion fencing shall be secured directly to the outside of the security fence...”
4.2-199	Please see comment 4.2-165 on a mortality reporting procedure. Please consider requesting development of a mortality/carcass reporting and disposition plan, or including that as a subsection of the BRMIMP (BIO-2).
4.2-200	We recommend that the decision to use the advance mitigation option (BIO-19) be approved by the agencies prior to the project owner taking action. Please add language to that effect in BIO-19.
4.2-200	Verification section, second sentence: Please revise as follows: “...provide proof of participation to the CPM, BLM, and FWS, to be verified by CDFG, prior to any ground disturbance.”
4.2-201	We recommend that the purpose of activities in the Closure, Revegetation, and Reclamation Plan be restoration, not reclamation. Please revise BIO-20 accordingly.
4.2-221	Please reconcile the stated conclusion that the SRSG would need to be replaced about every 4 years with BrightSource’s statement, and Staff’s resultant conclusions, that the solar power plant would be in full standby “a few minutes in an entire year during an unusual or emergency episode” (4.2-83).
4.2-223	Please explain how Staff arrived at the conclusion that avian exposure to concentrated solar flux would be from 20 seconds to 4 minutes during each pass through the field.
4.2-223	Extrapolating from the statement that bare human skin exposed to 5 kW/m ² would experience first-degree burns within 20 seconds, second-degree burns within 30 seconds, and third-degree burns within 50 seconds with an associated 1 percent fatality rate, it is probable that exposed skin of birds (e.g., the heads of vultures or around the eye) would be burned as a result of the project. Given the short exposure time and low flux level required to burn human skin, we are concerned that birds may be burned at lower flux levels than those Staff considers safe for bird feathers. Please address this in the effects section.
4.2-223	Please specify if Staff’s conclusion that damage to barbules from exposure to flux would be “essentially instantaneous” applies to all durations and levels of flux exposure.
4.2-223	Please consider potential damage to avian eyes when stating that damage to surface feathers is one of the most sensitive types of adverse effects.
4.2-225	Exposure to flux may also affect multiple feathers at once, such that birds’ ability to maneuver, their flight speed, or aerodynamics may be compromised. While complete loss of a feather usually triggers new growth of a replacement feather, feather damage does not. Consequently, any damaged feathers would not be replaced until the next molt cycle, meaning adverse effects, and resultant increased mortality risk, could last many months. Further, feather damage from flux exposure would be additive to any naturally-occurring feather damage. Please discuss this in the effects

	section.
6.1-4	Please describe the rationale for not including in the alternatives analysis project locations beyond those included in the Application for Certification. Alternative sites for power tower technology may be less injurious to the number of species and abundance of resident and migratory bird populations. (http://www.brightsourceenergy.com/stuff/contentmgr/files/0/63ecfc415e8722af38abe473ead74c8c/pdf/final_sce_cpuc_approval.pdf),
6.1-22 6.1-26	Please describe the data on which the assessment of biological resources on the Sonoran West site is based. Please compare the surveys that have been conducted at Sonoran West to those at Rio Mesa, and explain how conclusions are supported.
6.1	As discussed during REAT agency meetings and project-specific workshops, coordination of and the ultimate outcome of the Least Environmentally Damaging Practicable Alternative (LEDPA) analysis pursuant to section 404(b)(1) and authorized by the Army Corps of Engineers has not been completed. We remain concerned that this process has not identified the LEDPA, which may be different than the configuration analyzed under the PSA.



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

September 30, 2013

Via Electronic and U.S. Mail

Mr. Frank McMenimen
Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, CA 92262

Dear Mr. McMenimen:

Notice of Intent to Prepare an Environmental Impact Statement Considering Proposed Amendments to the Blythe Solar Power Project (BSPP) Right-of-Way (ROW) Grant (CACA-488T1)

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Notice of Intent for the amendments to the Blythe Solar Power Project (BSPP) right-of-way grant as referenced above. Metropolitan is pleased to submit comments for consideration by Bureau of Land Management (BLM) in the preparation of the Draft Environmental Impact Statement (DEIS). In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the Project and on the Colorado River water resources are adequately addressed.

Metropolitan previously reviewed both the DEIS and Final Environmental Impact Statement (FEIS) for the Blythe Solar Power Project and California Desert Conservation Area Plan Amendment and submitted comments on both of these documents. Those comment letters are enclosed to this letter for your reference and convenience.

Background

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies serving more than 19 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into Lake Mathews. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines that run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. Metropolitan's CRA transmission line easements lie on federally-owned land, managed by BLM. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Project Understanding

Pursuant to the Project Description in the Notice of Intent, the new owners of the BSPP, NextEra Blythe Solar Energy Center LLC (NBSEC), propose to modify the solar technology and reduce the size of the project within the previously approved BSPP footprint. The NBSEC is proposing to construct, operate, maintain, and decommission the BSPP using solar photovoltaic (PV) technology with a capacity of 485 MWs on 4,138 acres of BLM-administered public land, as opposed to the originally approved 1,000 MWs on 6,831 acres.

The Project site is located approximately two miles north of U.S. Interstate-10 (I-10) and eight miles west of the City of Blythe in an unincorporated area of Riverside County, California. The Blythe Airport is about one mile south of the site

Land Use Issues: Potential Impacts on Metropolitan Facilities

Although Metropolitan has not yet identified any direct impacts, the Project is in the general vicinity of Metropolitan facilities, perhaps as close as 8 miles. As described above, Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our water distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, Metropolitan requests that the DEIS include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects.

Metropolitan is also concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed projects and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system. Metropolitan requests that the DEIS analyze and assess any potential impacts to Metropolitan's transmission system.

Water Resources: Potential Impacts on Colorado River and Local Water Supplies

Metropolitan is also concerned about the Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. As noted above, Metropolitan holds an entitlement to imported water supplies from the Colorado River. Water from the Colorado River is allocated pursuant to federal law and is managed by the Department of the Interior, Bureau of Reclamation (USBR). In order to lawfully use Colorado River water, a party must have an entitlement to do so. *See* Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 617, et seq.; *Arizona v. California*, 547 U.S. 150 (2006).

The previously approved BSPP project proposed to use approximately 4,100 acre-feet (af) of water during construction and 600 acre-feet per year (afy) for long-term operations, using groundwater from a groundwater basin that is hydro-geologically connected to the Colorado River, within an area referred to as the "accounting surface." The extent of accounting surface area for the Colorado River was determined by the U.S. Geological Survey (USGS) and USBR as part of an on-going rule-making process. *See* Notice of Proposed Rule Regulating the Use of the Lower Colorado River Without an Entitlement, 73 Fed. Reg. 40916 (July 16, 2008); USGS Scientific Investigation Report No. 2008-5113. To the extent the Project uses Colorado River water, it must have a documented right to do so.

Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted and no new water entitlements are available in California. Thus, Proponents would have to obtain water from the existing junior priority holder, Metropolitan, which has the authority to sell water for power plant use. Metropolitan is willing to discuss the exchange of a portion of its water entitlement subject to any required approvals by Metropolitan's Board of Directors and so long as the Proponents agree to provide a replacement supply through an agreement with Metropolitan.

Metropolitan requests that BLM also assess the potential cumulative impacts of the use of the scarce Colorado River and local groundwater supplies in light of other pending renewable energy projects within the Colorado River Basin and the local groundwater regions. Metropolitan requests that the DEIS and staff assessment address the Proponent's water supply and any potential direct or cumulative impacts from this use.

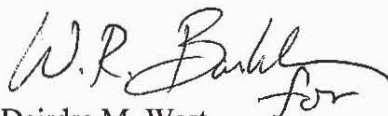
We appreciate the opportunity to provide input to your planning process and we look forward to receiving and reviewing the DEIS on the revised BSPP project. If we can be of further assistance, please contact Mr. Michael Melanson at (916) 650-2648.

Mr. Frank McMenimen

Page 4

September 30, 2013

Very truly yours,



Deirdre M. West

Manager, Environmental Planning Team

MM/sdf

Blythe_Solar_Power_Project_9_30_13

Enclosures (2) Comment Letter on Blythe Solar Power Plant DEIS dated June 15, 2010
 Comment Letter on Blythe Solar Power Plant FEIS dated September 19, 2010

cc w/enclosures: Ms. Tanya Trujillo
 Executive Director
 Colorado River Board of California
 770 Fairmont Avenue, Suite 100
 Glendale, California 91203-1068



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

JUNE 15, 2010

Via Electronic & U.S. Mail

Alan Solomon
Siting, Transmission and Environmental
Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Allison Shaffer
Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, California 92262

To Whom it May Concern:

Notice of Availability of the Draft Environmental
Impact Statement and Revised Staff Assessment for the Chevron Energy Solutions/Solar
Millennium, Blythe Solar Power Project and Possible California Desert Conservation
Area Plan Amendment, CEC Docket No. 09-AFC-6, BLM Docket No. CACA 48811

The Metropolitan Water District of Southern California (Metropolitan) reviewed the Revised Staff Assessment and Draft Environmental Impact Statement (collectively, "DEIS") for the Blythe Solar Power Project and Possible California Desert Conservation Area Plan Amendment (Project). The U.S. Bureau of Land Management (BLM) is the lead agency under the National Environmental Policy Act (NEPA) for the DEIS and the California Energy Commission (CEC) is the lead agency (for licensing thermal power plants 50 megawatts and larger) under the California Environmental Quality Act (CEQA) and has a certified regulatory program under CEQA. Under its certified program, CEC is exempt from having to prepare an environmental impact report. Its certified program, however, requires environmental analysis of the project or a "staff assessment," including an analysis of alternatives and mitigation measures to minimize any significant adverse effect the project may have on the environment.

Metropolitan is pleased to submit comments for consideration by BLM and CEC during the public comment period for the DEIS and staff assessment.¹ In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the Project and on the Colorado River water resources are adequately addressed.

¹ Comments on the DEIS and Revised Staff Assessment are due June 16, 2010 per the Federal Register notice. 75 Fed. Reg. 13275 (March 19, 2010). This comment deadline applies to the CEC's Revised Staff Assessment issued June 4, 2010 regardless of whether it is finalized separately from BLM's DEIS as the relevant comment periods may not be reduced or altered retroactively.

Background

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies serving more than 19 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into Lake Mathews. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines that run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. Metropolitan's CRA transmission line easements lie on federally-owned land, managed by BLM. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200 square mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Project Understanding

Pursuant to the Project Description in the DEIS, Solar Millennium, LLC and Chevron Energy Solutions, the joint developers of this project (collectively, "Proponents"), propose to construct, own, and operate the Blythe Solar Power Project. The project is a concentrated solar thermal electric generating facility with four adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total capacity of 1,000 MW nominal.

The Project will utilize solar parabolic trough technology to generate electricity. With this technology, arrays of parabolic mirrors collect heat energy from the sun and refocus the radiation on a receiver tube located at the focal point of the parabola. A heat transfer fluid (HTF) is heated to high temperature (750°F) as it circulates through the receiver tubes. The heated HTF is then piped through a series of heat exchangers where it releases its stored heat to generate high pressure steam. The steam is then fed to a traditional steam turbine generator where electricity is produced.

The Project water needs would be met by use of groundwater pumped from one of two wells on the plant site. Water for domestic uses by project employees would also be provided by onsite groundwater treated to potable water standards. During construction, the Project proponent anticipates using up to 4,100 acre-feet of water over the course of 60 months. Following

construction and for long-term operations, the average total annual water usage for all four units combined is estimated to be about 600 acre-feet per year (afy).

The Project site is located approximately two miles north of U.S. Interstate-10 (I-10) and eight miles west of the City of Blythe in an unincorporated area of Riverside County, California. The Blythe Airport is about one mile south of the site. The applicants have applied for a right-of-way grant from BLM for about 9,400 acres of flat desert terrain. The total area that will be disturbed by Project construction and operation will be about 7,030 acres. The area inside the project's security fence, within which all Project facilities will be located, will occupy approximately 5,950 acres.

Land Use Issues: Potential Impacts on Metropolitan Facilities

Although Metropolitan has not yet identified any direct impacts, the Project is in the general vicinity of Metropolitan facilities, perhaps as close as 8 miles. As described above, Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our water distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, Metropolitan requests that the final EIS and staff assessment include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects.

Metropolitan is also concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed projects and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system. Metropolitan requests that the final EIS and staff assessment analyze and assess any potential impacts to Metropolitan's transmission system.

Water Resources: Potential Impacts on Colorado River and Local Water Supplies

Metropolitan is also concerned about the Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. As noted above, Metropolitan holds an entitlement to imported water supplies from the Colorado River. Water from the Colorado River is allocated pursuant to federal law and is managed by the Department of the Interior, Bureau of Reclamation (USBR). In order to lawfully use Colorado River water, a party must have an entitlement to do so. *See Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 617, et seq.; Arizona v. California, 547 U.S. 150 (2006).*

As noted above, the Project proposes to use approximately 4,100 af of water during construction and 600 afy for long-term operations, using groundwater from a groundwater basin that is hydrogeologically connected to the Colorado River, within an area referred to as the "accounting surface." The extent of accounting surface area for the Colorado River was determined by the

Alan Solomon, Allison Shaffer
June 15, 2010
Page 4

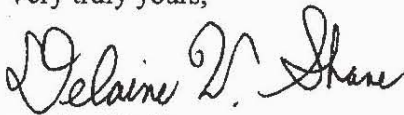
U.S. Geological Survey (USGS) and USBR as part of an on-going rule-making process. *See* Notice of Proposed Rule Regulating the Use of the Lower Colorado River Without an Entitlement, 73 Fed. Reg. 40916 (July 16, 2008); USGS Scientific Investigation Report No. 2008-5113. To the extent the Project uses Colorado River water, it must have a documented right to do so.

Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted and no new water entitlements are available in California. In addition, the California contractors have agreed in the 1931 Seven Party Agreement to prioritize the delivery of California's Colorado River water among themselves. Under this priority agreement, proponents would have to obtain water from the existing junior priority holder, Metropolitan, which has the authority to sell water for power plant use. Metropolitan is willing to discuss the exchange of a portion of its water entitlement subject to any required approvals by Metropolitan's Board of Directors and so long as the Proponents agree to provide a replacement supply through an agreement with Metropolitan. As required by mitigation measures SOIL&WATER-2 and SOIL&WATER-16 in the Revised Staff Assessment, Proponents must fully address the impacts on Colorado River water resources and provide full mitigation for such impacts, including replacement of supply.

Additionally, CEC should assess the potential cumulative impacts of the use of the scarce Colorado River and local groundwater supplies in light of other pending renewable energy projects within the Colorado River Basin and the local groundwater regions. Metropolitan requests that the final EIS and staff assessment address the Proponent's water supply and any potential direct or cumulative impacts from this use.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this project. If we can be of further assistance, please contact Dr. Debbie Drezner at (213) 217-5687.

Very truly yours,

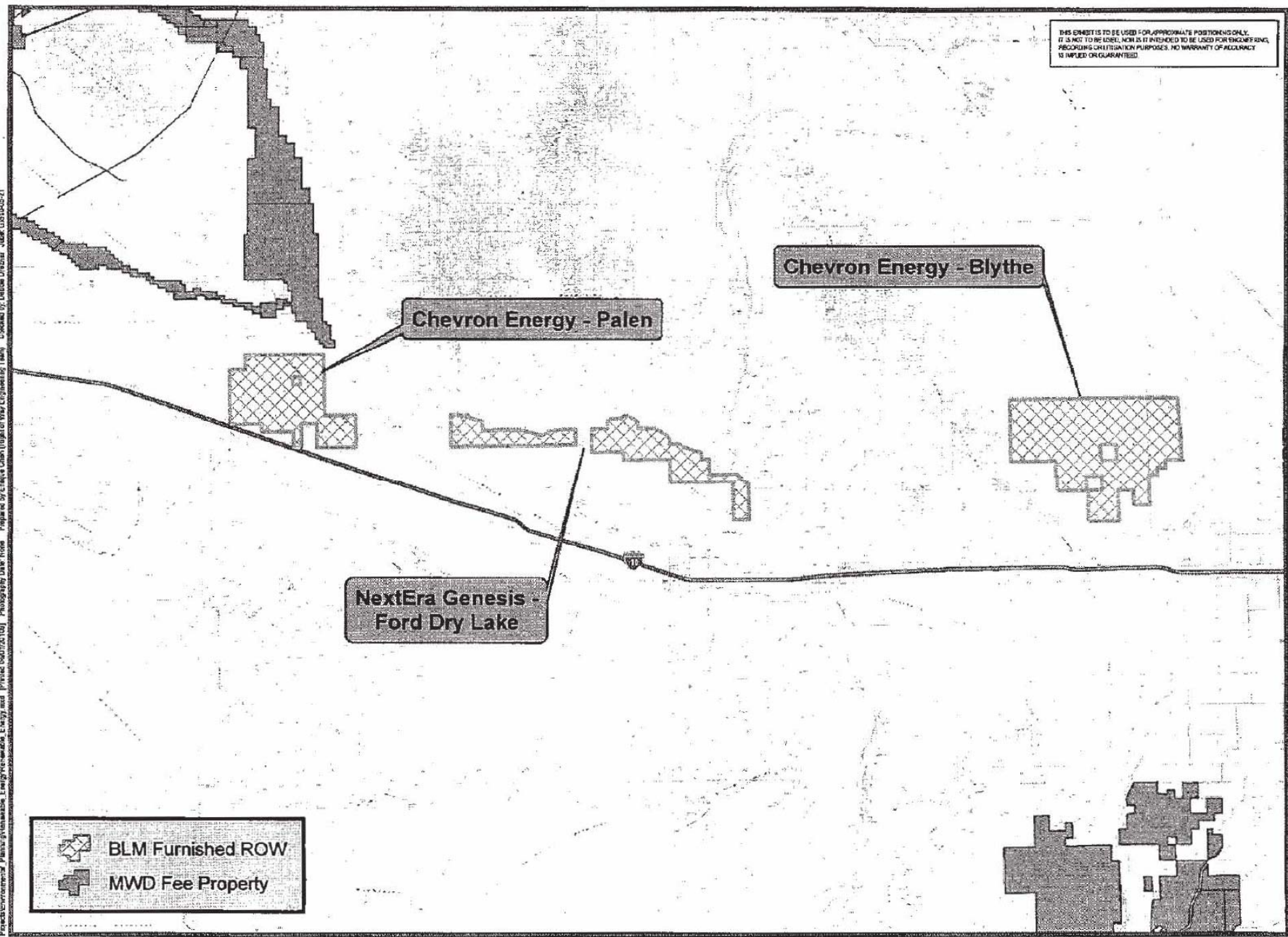


Delaine W. Shane
Manager, Environmental Planning Team

DSD/dsd
(Public Folders/EPT/Letters/EPT Final Letters PDF/2010/15-JUN-10C.doc)
Enclosures: Map

Project: Environmental Planning/ Renewable Energy/ Renewable Energy and (Printed 06/07/2010) Photography: Dave Hines Prepared by: Elaine Chan (Right of Way Engineering Team) Checked by: Debbie Drexler Job #: 031005-21

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THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

September 19, 2010

Via Electronic & U.S. Mail

Alan Solomon
Siting, Transmission and Environmental
Protection Division
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814

Allison Shaffer
Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, California 92262

To Whom it May Concern:

Metropolitan's Comments on Plan Amendment/Final Environmental Impact Statement for the Blythe Solar Power Project, DOI Control No. FES 10-41 & CEC Docket No. 09-AFC-6

The Metropolitan Water District of Southern California (Metropolitan) reviewed the Plan Amendment/Final Environmental Impact Statement for the Blythe Solar Power Project (collectively, "FEIS").

Metropolitan submitted comments on the draft EIS for the Blythe Solar Power Project (Project) on June 15, 2010 that are attached hereto and incorporated by reference. In sum, as a contractor receiving delivery of Colorado River water, Metropolitan remains concerned about the Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies.

In reviewing the mitigation measures associated with the Project's use of groundwater as it relates to Metropolitan's Colorado River supplies, Metropolitan noted numerous references to mitigation measures which were confusing and in some cases, inaccurate. For instance, in FEIS Section 4.19, mitigation measures are labeled as "WATER," whereas in Appendix G and in the Bureau of Land Management's (BLM's) response to our prior comments (response), mitigation measures are labeled "SOIL&WATER." Therefore, in reviewing Section 4.19, Metropolitan is unsure whether the "WATER" mitigation measures refer to the same "SOIL&WATER" mitigation measures in Appendix G. Furthermore, it is not clear whether the specific mitigation measures referenced in BLM's response are accurately represented in Appendix G. For instance, on page 5-54 of the response, mitigation measure SOIL&WATER-17 is referenced, however, this mitigation measure is not included in Appendix G. As a result, Metropolitan is precluded

Alan Solomon and Allison Shaffer

September 19, 2010

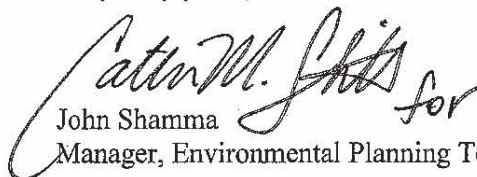
Page 2

from a complete and accurate review of the final mitigation measures for direct and cumulative impacts to Colorado River and local groundwater supplies.

In Mitigation Measures SOIL&WATER-1 through SOIL&WATER-18, the FEIS addresses potential impacts to water resources. Section 4.19.5 more specifically states that WATER-1 and WATER-15, require that the applicant eliminate any impacts to the Colorado River supplies by "ensur[ing] that either (1) potential effects on the Colorado River hydrology are avoided entirely, or (2) the applicant applies for and receives an allocation of water from the Colorado River." In Appendix G, SOIL&WATER 2 requires submittal of a Water Supply Plan to the Compliance Project Manager (CPM) and SOIL&WATER 16 provides an accounting method which would require additional investigation and calculation of the potential for groundwater pumping on site to affect the Colorado River. SOIL&WATER-16 requires submittal of a report detailing the modeling effort to estimate, among other things, the amount of subsurface water flowing from the surface water due to project pumping. Metropolitan requests to be included, along with the Colorado River Board of California, in BLM's process of reviewing all groundwater and hydrogeological monitoring and reporting provided by the project owner related to local groundwater and Colorado River resources prior to BLM's approval of the reports.

We appreciate the opportunity to provide input to your planning process. If we can be of further assistance, please contact Dr. Debbie Drezner at (213) 217-5687.

Very truly yours,


John Shamma
Manager, Environmental Planning Team

DSD/cms

Attachment: Comment Letter on Blythe Solar DEIS dated June 15, 2010

cc: Gerald R. Zimmerman, Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, California 91203-1068



AIRPORT LAND USE COMMISSION RIVERSIDE COUNTY

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Rancho Mirage

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John Guerin
Russell Brady
Barbara Santos

County Administrative Center
4080 Lemon St., 14th Floor.
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

October 2, 2013

Mr. Frank McMenimen, Project Manager
Bureau of Land Management (BLM)
Palm Springs Field Office
1201 Bird Center Drive
Palm Springs CA 92262-8001

RE: Blythe Solar Power Project – Notice of Intent to Prepare Environmental Impact Statement

Dear Mr. McMenimen:

Thank you for providing the Riverside County Airport Land Use Commission (ALUC) with a copy of the Bureau of Land Management's Notice of Intent to Prepare an Environmental Impact Statement to analyze the site-specific impacts of the proposed amendment that would modify the technology and reduce the size of the project. In 2010, ALUC reviewed the original proposal that was then under consideration by the California Energy Commission (CEC) and evaluated several areas of concern with regard to the Blythe Solar Power Project, and whether current, existing information was sufficient to determine whether that project may individually, or cumulatively, pose hazards to flight; and/or be consistent with the criteria of the Blythe Airport Land Use Compatibility Plan. A copy of ALUC's letter to the California Energy Commission dated July 14, 2010 is attached, for your convenience.

The Commission's concerns with that project included glint/glare, transmission (gen-tie) line routing and height, thermal plumes, fire risk associated with the heat transfer fluid, evaporative basins, and electrical interference. On a generalized basis, ALUC welcomes the proposed change in technology, as the potential for thermal plumes (resulting from the use of an air cooled condenser) is eliminated, as well as the use of a flammable heat transfer fluid. The number and size of evaporative basins is reduced in the amended project.

At this time, we have only seen a reduction of a generalized layout plan (with notes that are not easily legible at the reduced scale). We would like an opportunity to view a larger, more legible exhibit of the project layout.

The applicant is requesting to be able to select "the specific combination of technologies" (single-axis tracking, fixed-axis tilt, or a combination of the two) "prior to construction." As Abdel-Karim Abulabon noted in his Soil and Water Resources assessment for the California Energy Commission, "the orientation and technique for collection of the sun's energy, as well as the number of panels and supports may be different." (California Energy Commission Staff Assessment, Part A, page 4.9-8) While we would anticipate that the switch from solar thermal to photovoltaic technology would result in lesser glint/glare impacts, significant design changes to the locations and/or orientation of solar arrays (including whether the panels are tracking or fixed-axis, since tracking panels may produce glare while in, or while transiting to, the "stow" position) could potentially affect the locations where (and the times when) hazardous glare would

occur.

In our review of solar photovoltaic projects, we have requested glint/glare analyses, and the results have often indicated that the impacts vary by season. We would recommend that the analysis address morning and afternoon glare at each equinox and solstice. Special attention should be given to any portions of the array located within 1,500 feet on either side of the extended north-south runway centerline or below flight paths necessitated in order for aircraft to avoid overflight of the Blythe Power Plant. These factors were addressed in the California Energy Commission's review of the original project. The request to allow selection of technology prior to construction should not be granted unless the glint and glare analysis specifically addresses all of the technologies under consideration.

ALUC's concerns regarding glint/glare, the transmission line, and electrical interference were ultimately addressed through project design and/or CEC conditions of approval, and we hope that the revised project design will maintain the previously established mitigation measures to the extent that they remain applicable.

ALUC remains concerned that the cumulative glint and glare effects of the multiple solar power plant projects may affect the usability of Blythe Airport.

We appreciate the opportunity to comment on the amended project and look forward to working with both the Bureau of Land Management and the California Energy Commission as this project proceeds through the evaluation process. ALUC reserves the right to issue additional comments as the project moves forward, in order to ensure that all potentially significant impacts upon the safety of air navigation are mitigated. We would like to receive a CD copy of the Environmental Impact Statement upon its release, and would like to remain on your mailing list for subsequent notifications.

Finally, while ALUC has no official jurisdiction over the development of this project on federal land, we would appreciate an opportunity to formally review the amended project in an advisory capacity at a public hearing through the ALUC application process. Projects submitted by October 30 and determined to be complete would be eligible for consideration at ALUC's meeting on December 12, 2013 in La Quinta. If you have any questions, please contact John Guerin, ALUC Principal Planner, at (951) 955-0982.

Sincerely,

RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION



Edward C. Cooper, Director

JJGJG:bks

Attachment: Letter to California Energy Commission dated July 14, 2010

cc: Mary Dyas, California Energy Commission
Simon Housman, ALUC Chairman
Chad Wilshire, Riverside County EDA – Aviation Division
Robert Eppers, California Pilots Association
ALUC Staff

Y:\ALUC\Blythe\Tech Change to BSPP for PV Response to Fed NOI.ltr to BLM.doc



AIRPORT LAND USE COMMISSION RIVERSIDE COUNTY

July 14, 2010

CHAIR
Simon Housman
Rancho Mirage

VICE CHAIRMAN
Rod Ballance
Riverside

California Energy Resources Conservation and Development Commission
Attn.: Alan Solomon, Staff Project Manager
1516 Ninth Street
Sacramento CA 95814

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Robin Lowe
Hemet

John Lyon
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Glen Holmes
Hemet

Greg Pettis
Cathedral City

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4080 Lemon St., 9th Floor.
Riverside, CA 92501
(951) 955-5132

www.rcaluc.org

RE: Blythe Solar Power Project

File No.: ZAP1006BL10
Related File No.: 09-AFC-06
APN: Multiple

Dear Mr. Solomon:

The Riverside County Airport Land Use Commission (ALUC) evaluated several areas of concern, as itemized below, with regard to the Blythe Solar Power Project, and whether current, existing information was sufficient to determine that the project may individually, or cumulatively, pose hazards to flight; and/or be consistent with the criteria of the Blythe Airport Land Use Compatibility Plan.

ALUC had continued its consideration of this matter from its regularly scheduled meeting of June 10, 2010 to a special meeting on July 6, 2010 with the expectation that the supplemental reports from Ricondo and Associates, ordered by California Energy Commission (CEC) staff, would be available for ALUC review in its deliberations. Unfortunately, CEC staff advised ALUC staff that the reports would in fact not be available for public review in time for ALUC's consideration on July 6. Therefore, ALUC is issuing its recommendations and findings with the understanding that its determinations are made without benefit of access to these reports.

ALUC proceeded to consider these issues of concern based on the information provided by the applicant and published reports from the California Energy Commission staff and consultants available at the time of its consideration. As the project is proposed to be located on federal land and is, therefore, not within the official jurisdiction of ALUC, a determination of consistency or inconsistency was not required, and no vote was taken. These findings and recommendations are offered as advisory comments to the California Energy Commission. (The Riverside County Airport Land Use Commission looks forward to receiving copies of the supplemental reports from Ricondo and Associates when they are available.)

Open Area

Countywide land use compatibility criteria require that a minimum of 10% of land area in Airport Compatibility Zone D consist of open land as defined in Policy 4.2.4 of the Riverside County Airport Land Use Compatibility Plan Countywide Policies. The applicant submitted a diagram

demonstrating that 94.4 percent of the portion of the project within Zone D would remain as open land. The information submitted is sufficient to determine consistency with Zone D criteria.

Electrical Interference

The electromagnetic signal/noise emanating from the operation of electrical equipment of the project will be at base frequency 60 hertz with less intense higher frequencies from harmonics. The applicant team has provided information indicating that gap noise and corona noise associated with the transmission line and the conductors will not result in interference with the use of the Blythe VORTAC signal or with communications at frequencies used by pilots to communicate with the airport and with other aircraft in the area.

The information provided by the applicant is satisfactory to determine no hazard to flight. The following design/operational considerations are suggested to be included:

The project shall not include any use that would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation. In the event that any incidence of electrical interference affecting the safety of air navigation occurs as a result of project operation, the permittee shall be required to take all measures necessary to eliminate such interference.

Thermal Plumes

Concerns were expressed regarding the lack of availability of the Ricondo and Associates report. ALUC staff noted that the results of the thermal plume analysis prepared by William Walters for the California Energy Commission and the computational fluid dynamics model prepared by Howard Balentine and AECOM did not coincide regarding the heights at which vertical velocities exceeding 4.3 meters per second could be experienced. The applicant team's consultant, Douglas Moss of AeroPacific Consultants (with Howard Balentine of AECOM also present), conducted a series of 38 flyovers of an air cooled condenser in Primm, Nevada on June 2, 2010. ALUC Chairman Simon Housman advised that he had a concern regarding the note in the report from Messrs. Moss and Balentine regarding a momentary stall warning that occurred on two of the flights when the aircraft passed through the plume 500 feet above the ACC in landing configuration. The Chairman noted that he would have a concern if the plume were located inside the traffic pattern, in that the normal reaction of a pilot to a stall warning would be to push the nose of the aircraft down to try to accelerate. However, based on the information provided, which indicates that the power block would be outside the traffic pattern, given this location and distance from the runways, the pilot would be at a sufficient altitude and there would be sufficient distance available for a pilot who reacted in such a manner to be able to correct the error.

The consensus of the Commission is that, based on the information available to the Commission, the thermal plumes will not constitute a hazard to flight, due to the location of the project and its current distance from the flight paths for Blythe Airport.

Transmission Line/Gen-Tie Line

The 230 kV transmission line generally crosses southerly from the main project site across Compatibility Zones E, D, and C (and originally within B1) perpendicular to runway 8/26 before turning westerly to its connection with the SCE substation. The maximum height of the transmission poles would not exceed 145 feet in height. Poles would not exceed a height of ninety (90) feet in Zone D (except for three poles at a height of 120 feet) and seventy (70) feet in Zone C.

Undergrounding of transmission lines is preferable in Airport Influence Areas, but the applicant team noted that undergrounding a 230kV line would be prohibitively expensive and counter-productive to project objectives because "dissipation of heat from the power line into the surrounding dry sands would seriously reduce the amount of power able to be transmitted along the underground segment of the transmission line during the hottest days of the summer, precisely the time of the peak summer load on the California power grid."

In response to concerns that the transmission lines at their originally proposed location would constitute a hazard to flight, the applicant team agreed to amend the transmission line route so as to avoid traversing Airport Compatibility Zone B1. As amended, the transmission line would intersect the extended runway centerline approximately 5,560 feet westerly of the ultimate westerly terminus of Runway 8-26.

At the July 6 meeting, Chairman Housman reiterated his position that the cumulative level of hazards facing pilots operating in the vicinity of Blythe Airport would be lessened by siting the transmission line at a location closer to the McCoy Mountains. In this way, the terrain would remain the primary constraint, and the transmission lines would not be an additional factor of concern. He suggested a location 7,548 feet westerly of the ultimate runway terminus. However, this location would result in a higher absolute elevation of the transmission lines and towers. This proposal was discussed by the Commission. It was acknowledged that there is a trade-off between distance and elevation. After considerable discussion and input from the applicant and from Mr. Moss, the Commission determined that the proposed location constituted a reasonable compromise between distance from runway and lowest absolute altitude, in light of the non-aviation complications that could result from selection of the more westerly location (desert wash, possible Desert Tortoise habitat location, possible private ownership), and agreed not to request further changes to the location of the lines.

At this time, as the Federal Aviation Administration (FAA) has not completed its review of the proposed pole locations, there is not sufficient information to indicate that there would not be a hazard to flight. However, provided that the FAA issues Determinations of No Hazard to Air Navigation for each structure, it is the opinion of the Commission that the relocation of the transmission line so as not to traverse Airport Compatibility Zone B1 and the installation of visibility balls in accordance with the applicable FAA Advisory Circular on the segments of the transmission line within Airport Compatibility Zones C and D would mitigate hazards to flight to an acceptable level.

In addition to the line relocation outside Zone B1, the Commission recommends the following measure for safety:

In order to enhance visibility and pilot awareness, "spherical obstruction balls" (in accordance with FAA Advisory Circular 7-7460-2 series) shall be placed on the wires of the new transmission line(s) located within Airport Compatibility Zones C and D. Such balls shall be in addition to any lighting that may be required by the Federal Aviation Administration pursuant to its aeronautical studies of the proposed pole locations.

Glint/Glare

The potential for reflectivity, glint, or glare, has been the central issue of concern for solar arrays such as the Blythe Solar Power Project. At the May 13 hearing, ALUC asked the project representative whether it would be possible – and, if so, at what times of day and seasons of the year – for reflection or glint from any element of the solar array to intersect Runway 26 or its centerline extended easterly at a height of 1,000 feet or less above ground level. (The concern relates to the potential for a flash or beam of light that would affect a pilot on a final approach to a landing on that runway – coming from the east and making a westbound landing.)

The applicant team contracted with Mr. Douglas Moss of AeroPacific Consulting to conduct an overflight of the Kramer Junction parabolic trough solar facility. Mr. Howard Balentine of AECOM accompanied Mr. Moss on the flight. Mr. Moss testified at the June hearing and indicated that, while there would be some reflection towards aircraft flying overhead, it would not be of such intensity as to interfere with aircraft operations or distract a pilot such that he/she would be unable to perform his/her duties. He concluded that the glint/glare characteristics of the solar array would not present a significant hazard to aviation.

For this area, the Commission again expressed concerns regarding the lack of availability of the Ricondo and Associates report. The additional information anticipated from the pending study commissioned by the CEC regarding glare would provide a more informed determination on the impacts of glare posing hazard to flight. Based on the information available, the Commission concluded that, while the project would result in reflection of sunlight visible from aircraft, the location of the solar collectors and their distance from the runways may mitigate the impacts of glint and glare such that they would not pose a significant hazard to flight.

The following design/operational considerations are suggested:

Any outdoor lighting installed shall be hooded or shielded to prevent either the spillage of lumens or reflection into the sky.

The project shall not include steady or flashing lights of red, white, green, or amber colors directed toward aircraft, other than FAA-approved obstruction lighting.

In the event that any incidence of glint, glare, or flash affecting the safety of air navigation occurs as a result of project operation, the permittee shall be required to take all measures necessary to eliminate such glint, glare, or flash.

Evaporative Basins

The applicant proposes to utilize evaporative basins for wastewater management. Two basins, each approximately 3.5 acres in area, would be developed in each power block. As initially

proposed, the basins would constitute areas of standing water for extended periods of time – up to 24 months. An 18-month period would be required for any one basin to evaporate and be ready for use again. Federal Aviation Advisory Circular 150-5200 – 33A, Hazardous Wildlife Attractants On or Near Airports, recommends a distance of five statute miles between the farthest edge of the airport's operations area and a hazardous wildlife attractant, if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.

The information provided by the applicant is unsatisfactory to determine no hazard to flight. An analysis determining the level of an attractant the basins would present and their potential to result in an increase in bird strikes would provide the necessary information to allow for a clear determination regarding this potential hazard to flight. In lieu of such an analysis, the following design/operational considerations or mitigation measures are suggested:

Evaporation basins within the project boundary (other than those located more than five statute miles from the nearest point of any runway at Blythe Airport) shall be covered with 1.5 inch mesh netting. Such netting or other cover shall extend beyond the edge of the basin. The sides of such ponds shall be steeply graded (minimum 5:1 slope and double-lined with high density polyethylene (HDPE) in accordance with the RWQCB and CEC requirements.

Vegetation in and around the evaporation basins that would provide food or cover for bird species that would be incompatible with airport operations shall not be utilized in project landscaping. Any vegetation growing in the basins or in the immediate vicinity of the basins shall be removed periodically to prevent wildlife attraction. Landscaping shall utilize plant species that do not produce seeds, fruit, or berries. Standing water in the basins shall be managed and controlled so as not to generate or attract insects as an alternate food source that, in turn, attracts birds. Trees shall be spaced so as to prevent large expanses of contiguous canopy, when mature.

Flammable Materials/Fire Risk

The heat transfer fluid (HTF), Therminol, is a flammable substance (a mixture of 73.5% diphenyl ether and 26.5% biphenyl). Thermal solar plants have experienced fires in the past. As a fire protection and worker safety measure, isolation valves would be incorporated into the HTF piping system, and would automatically block off sections of the piping in which a loss of pressure is detected. It is our understanding that the CEC staff is proposing that the applicant install isolation valves that can be either manually or remotely activated, so that if a leak develops in a ball joint, flex-hose, or pipe, a loop could be closed (in lieu of shutting down the entire system).

The available information is satisfactory to determine no hazard to flight based on the low likelihood of a landing occurring within the project area relative to the location of the airport and the incorporation of isolation valves. Although unlikely, an aircraft impact in the solar collector fields would likely be fatal to the occupants of the aircraft and ignite the Therminol.

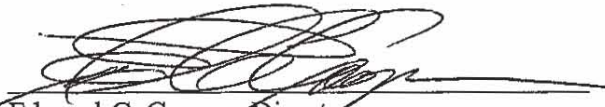
Cumulative Impacts

Information is unsatisfactory to conclusively determine no hazard to flight exists. Additional information is warranted, such as a quantitative and qualitative analysis of existing hazards (including those from already approved projects yet to be constructed) and the increase in hazards that would result from the proposed project. Without such an analysis, the specific measures listed above may mitigate the present cumulative impact. Even if the proposed project would not create a cumulative hazard to flight, there is concern that additional similar projects in the airport influence area could be the tipping point that does generate cumulative hazards to flight. The Airport Land Use Commission suggests the CEC, County of Riverside and other land use planning agencies consider cumulative impacts before proposing to site any future projects within the Blythe Airport Influence Area.

If you have any questions, please contact John Guerin, ALUC Principal Planner, at (951) 955-0982.

Sincerely,

RIVERSIDE COUNTY AIRPORT LAND USE COMMISSION


Edward C. Cooper, Director

JJGJG:bks

cc: Supervisor John Benoit
David Flores, California Energy Commission
Marie McLean, California Energy Commission
Elizabeth Ingram, Solar Millennium
Alice Harron, Solar Millennium
Howard Balentine, AECOM
Douglas Moss, AeroPacific Consultants
Elizabeth Klebaner, Adams Broadwell Joseph and Cardozo.
Janet Laurain, Adams Broadwell Joseph and Cardozo
Chad Davies, Riverside County EDA – Aviation Division
Jim Rodkey, City of Blythe Public Works/Airport
David Lane, Blythe City Manager
Ron Goldman, Riverside County Planning Director
Carolyn Syms Luna, Riverside County Environmental Programs Director
Kathleen Browne, Riverside County Planning
Ray Juarez, Riverside County Planning
Richard Denewiler
ALUC Staff

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U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT NEWS RELEASE
California Desert District Office

Release Date: 08/30/13

News Release No. CA-CDD-13-51

Contacts: Stephen Razo (951) 697-5217

BLM Announces Notice of Intent to Prepare an Environmental Impact Statement for Blythe Solar Power Project

The Bureau of Land Management (BLM) today published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the proposed Right of Way Amendment for the Blythe Solar Power Project, Riverside County, CA.

The Blythe Solar Power Project (BSPP) was fully permitted and approved as a 1,000 megawatt (MW) solar thermal generating plant in 2010. NextEra Blythe Solar Energy Center, LLC (NBSEC) purchased the fully permitted (un-built) project assets in mid-2012 and now proposes to modify the technology and reduce the size of the project entirely within the approved BSPP footprint.

The Applicant is proposing to construct, operate, maintain, and decommission the BSPP using photovoltaic (PV) technology with a 485 MW capacity on 4,138 acres of BLM-administered public land. An amendment to the existing ROW authorization has been submitted to reduce the acreage of the project, change the technology from concentrating solar trough to photovoltaic, adjust the project layout per the new technology and reduce the projects capacity from 1,000 to 485 megawatts. On August 22, 2012, BLM approved the assignment of the ROW Grant from the prior holder, Palo Verde Solar I, LLC, to NBSEC. The Project area is located 8 miles west of Blythe and three miles north of Interstate 10 (I-10).

The BLM, as the lead agency under the National Environmental Policy Act, will prepare an Environmental Impact Statement (EIS) to analyze the site-specific impacts of the proposed amendment to the existing ROW. The EIS will analyze the site-specific change to impacts on air quality, biological resources, cultural resources, water resources, geological resources and hazards, hazardous materials handling, land use, noise, wilderness characteristics, visual resources, transmission system engineering, and transmission line safety.

Publication of the NOI initiates a public scoping period of 30 days ending September 29. During the scoping period, the BLM will solicit public comments on environmental issues, potential changes to impacts, alternatives, and mitigation measures that should be considered in the analysis of the right of way amendment.

A scoping meeting for the Modified Blythe Solar Power Project will be held on Tuesday, September 17, 2013, from 6:00 p.m. to 8:00 p.m. in the Community Room at Blythe City Hall, 235 N. Broadway, Blythe, California 92225.

Further details on the proposed BSPP project can be found at the following website:
<http://www.blm.gov/ca/st/en/fo/cdd.html>. For information contact Frank McMenimen (760) 833-7150 or e-mail fmcmenimen@ca.blm.gov.

--BLM--

California Desert District Office 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553

Airport Land Use Commission
Received

SEP 16 2013

Dunes ACEC area includes the current Blowout Penstemon ACEC and additional area surrounding the existing ACEC. The nominated area was found to meet the relevance and importance criteria. The area is considered in this EA with additional use restrictions which would occur if the area is formally designated including limiting off-road travel and locatable/leasable mineral entry, intensive management of surface disturbing activities, and control of pesticide use. The RMP plan amendment will comply with the National Environmental Policy Act, the Federal Land Policy Management Act, and other applicable laws, executive orders, regulations, and be consistent with applicable policies. The planning effort will recognize valid existing rights. Decisions in the amendment will apply only to the BLM-administered public lands and Federal mineral estate in the planning area.

A collaborative and multi-jurisdictional approach will be used to jointly determine the desired future condition and management direction for Visual Resources and ACECs in the Rawlins Field Office Planning Area. To the extent possible and consistent with applicable laws, regulations and policies, the BLM management and planning decisions will complement the planning and management decisions of other agencies, State and local governments, and Native American tribes, with jurisdictions intermingled with, and adjacent to, the planning area.

A total of 9,369 comments were received during scoping, of which 214 were considered to be unique. A majority of the comments were received by individuals and non-governmental organizations, and identified the following key issues:

1. Impacts to historic trails and roads;
2. Potential changes to existing land use planning and consistency with current management;
3. Continuation of public involvement;
4. Socioeconomic impacts; and
5. Impacts of additional ACEC designations.

Please note that public comments and information submitted including names, street addresses, and email addresses of persons who submit comments will be available for public review and disclosure at the above address during regular business hours (8 a.m. to 4 p.m.), Monday through Friday, except holidays. You may submit comments in writing to the BLM at any public meeting, or you may submit them to the BLM using one of the methods listed in the "ADDRESSES" section above. For your comments to be most effective and

fully considered, you should submit comments by the close of the 60-day comment period.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Authority: 40 CFR 1506.6, 43 CFR 1610.2

Donald A. Simpson,
State Director, Wyoming.

[FR Doc. 2013-21118 Filed 8-29-13; 8:45 am]

BILLING CODE 4310-22-P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[CACA 048811, LLCAD01500,
L51010000.LVRWB13B5340.FX0000]

Notice of Intent To Prepare an Environmental Impact Statement for the Blythe Solar Power Project, Riverside County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended (FLPMA), the Bureau of Land Management (BLM) Palm Springs/South Coast Field Office, Palm Springs, California, intends to prepare an Environmental Impact Statement (EIS) considering proposed amendments to the Blythe Solar Power Project (BSPP) right-of-way (ROW) grant (CACA-048811). The amendments include a change in technology, reduced project footprint, and operation by a different project owner. By this notice, the BLM is announcing the beginning of the scoping process to solicit public comments and identify issues for the EIS.

DATES: This notice initiates the public scoping process for the EIS. Comments on issues related to the EIS may be submitted in writing until September 30, 2013. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through local media, newspapers, and on the BLM Web site at: <http://www.blm.gov/ca/st/en/fo/cdd.html>. In order to be fully addressed in the Draft

EIS, all comments must be received prior to the close of the 30 day scoping period or 15 days after the last public meeting, whichever is later. We will provide additional opportunities for public participation upon publication of the Draft EIS.

ADDRESSES: You may submit comments on issues and alternatives related to the BSPP EIS by any of the following methods:

- **Web site:** <http://www.blm.gov/ca/st/en/fo/cdd.html>.
- **Email:** fmcmenimen@blm.gov.
- **Fax:** 760-833-7199, Attn: Frank McMenimen.

• **Mail:** ATTN: Frank McMenimen, Project Manager, BLM Palm Springs Field Office, 1201 Bird Center Drive, Palm Springs, CA 92262-8001.

Documents pertinent to this EIS may be examined at the BLM California Palm Springs Field Office.

FOR FURTHER INFORMATION CONTACT:

Frank McMenimen; telephone 760-833-7199; address Frank McMenimen, Project Manager, BLM Palm Springs Field Office, 1201 Bird Center Drive, Palm Springs, CA 92262-8001; email fmcmenimen@blm.gov. Contact Mr. McMenimen to have your name added to our mailing list. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The BSPP was originally permitted and approved on October 22, 2010, as a 1,000 megawatt (MW) solar thermal generating plant located on 6,831 acres of BLM-administered public land in the Palm Springs Field Office (CACA-048811). The Project area is located 8 miles west of Blythe, California, and 3 miles north of Interstate 10 (I-10).

The ROW grant was originally issued to Palo Verde Solar I, LLC, a wholly-owned subsidiary of Solar Millennium, which filed for Bankruptcy in April 2012. In mid-October 2012, NextEra Blythe Solar Energy Center, LLC (NBSEC), purchased the un-built BSPP as part of the bankruptcy process. The BLM approved the assignment of the ROW grant from the Palo Verde Solar I, LLC, to NBSEC on August 22, 2012. NBSEC now proposes to modify the solar technology and reduce the size of the project within the previously approved BSPP footprint. The NBSEC is proposing to construct, operate, maintain, and decommission the BSPP

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APPENDIX C

Scoping Meeting Materials

Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number
1. Alfred A. Figueroa	LA RUNA de AZTLAN	424 N. Carlton Ave Blythe CA 92223	760-922-1422
2. Donald Van Fleet	Fort Mojave	2935 Kromes Circle Mohave Valley AZ 86440	928 346 1081
3. Eugene Gornie			805 377 8253
4. Philip Smith	chemehuevi C.R.I.T.	997 Smith Rd Needles CA 92363	760 324 2676
5. Rebekah Rodriguez-Lynn	Rep. Ruiz	777 E Tahquitz Canyonway Palm Springs CA	760 424 888
6. Arlene Kingery	Quechan Indian Tribe	350 Picacho Rd Winterhaven CA 92283	928-920-6068
7. Stanley Jones JR	First Solar / CIP	425 N ACACIA BLYTHE CA 92225	760 989 7771
8. James / BLANKS	First Solar / CIP	182 Whispering Winds Blythe CA 92225	760 848 6377
9. David Cunha	First solar / CIP	33584 wells rd #66	760 296 2252
10. Ronny Underwood	LOCKA 12		951-663-5412

Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number
21. Rob Hoot	THE HOOT GROUP	201 E. HOBSONWAY BLYTHE 92225	760-922-HOOT
22. John Light	Laborers Union	72732 Ramon Rd Thousand Palms	760 275 6175
23. Patrick Gunning	Bureau Veritas	180 Promenade Cir, Ste 150, 95834	916 153 0562
24. Ron Escobar	Chemehuevi Tribe	PMB 1976, H/L, CA 92367	
25. Jay Gravath	Chemehuevi Tribe	1990 Palovar Dr PO BOX 197 Havasu Lake	760 858 1115
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Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number
41. Tony Gonzalez	First Solar CLP	481 Seville Lane Blythe CA 92225	760-5745417
42. CESAR LOZOYA	FIRST SOLAR CLP	1579 RUTH CT. BLYTHE CA 92225	760-698-4702
43. GERARDO FERNANDEZ	First Solar CLP	911 Vista Sunrise Blythe, CA 92225	760-3968251
44. Christine Johnson	Riversia RV Resort	500 Riverside Dr. Blythe, CA	760-922-5350
45. Robert Johnson	Riversia RV Resort	" " "	" "
46. JAMES B. ANDERSON		2020 EAST 10 AVE Blythe, CALIF	760-922-7634
47. Julian Presley	First Solar CLP	394 EARLE ST. BLYTHE CA 92225	760-899-9599
48. Keith Koser	Genesis	3600 Plant Street PO Box 1733 Blythe, CA	320-244-4497
49.			
50.			

Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

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Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

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Public Meeting Sign-in Sheet

Right-of-Way Amendment for Blythe Solar Power Project

September 17, 2013 6:00 pm to 8:00 pm
Blythe City Hall, 235 N. Broadway, Blythe, California 92225



Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number
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**Right-of-Way Amendment
Blythe Solar Power Project**

Bureau of Land Management

September 17, 2013

Blythe City Hall
235 N. Broadway
Blythe, California 92225

**Public Scoping Meeting
Speaker Registration Card**

Please complete and return to staff



Name (Print)

Agency (if applicable)

Address

City

Zip Code

Phone Number

Email

**Right-of-Way Amendment
Blythe Solar Power Project**

Bureau of Land Management

September 17, 2013

Blythe City Hall
235 N. Broadway
Blythe, California 92225

**Public Scoping Meeting
Speaker Registration Card**

Please complete and return to staff



Name (Print)

Agency (if applicable)

Address

City

Zip Code

Phone Number

Email

Address: _____

Comment: _____

☐ Compact Disk (CD) or ☐ Hardcopy

How to Comment:

Hardcopy: Use the form on the other side of this sheet. Please fold and staple this form and mail to the address below

Email: CAPSSolarBlythe@blm.gov. Make sure subject line reads "Blythe Solar Power Project"

- ☐ Public comments, including names and street addresses of respondents, will be available for public review at Bureau of Land Management, 1201 Bird Center Drive, Palm Springs, California 92262, during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays. Individual respondents may request confidentiality. **If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you MUST check this box.** Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

Place
stamp here

**Bureau of Land Management
c/o Frank McMenimen, Project Manager
1201 Bird Center Drive
Palm Springs, California 92262**

Right-of-Way Amendment for Blythe Solar Power Project

Blythe Solar Power Project



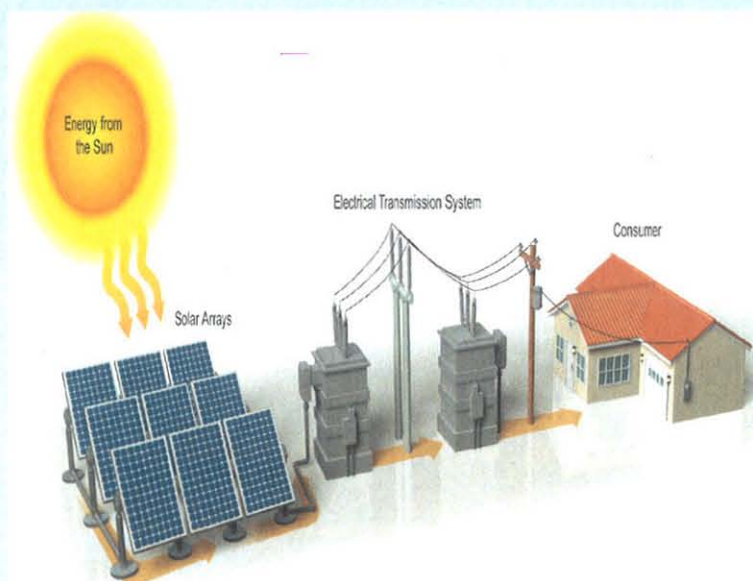
About NextEra Energy Resources

- » A leading clean energy provider operating wind, fossil fuels, solar and nuclear power plants
- » With 17,771 megawatts of generating capacity in the United States and Canada
- » The largest wind generator in North America
- » A subsidiary of NextEra Energy, Inc., with headquarters in Juno Beach, Florida
- » Approximately 95 percent of our electricity comes from clean or renewable sources
- » Visit us at www.NextEraEnergyResources.com

-As of March 2013

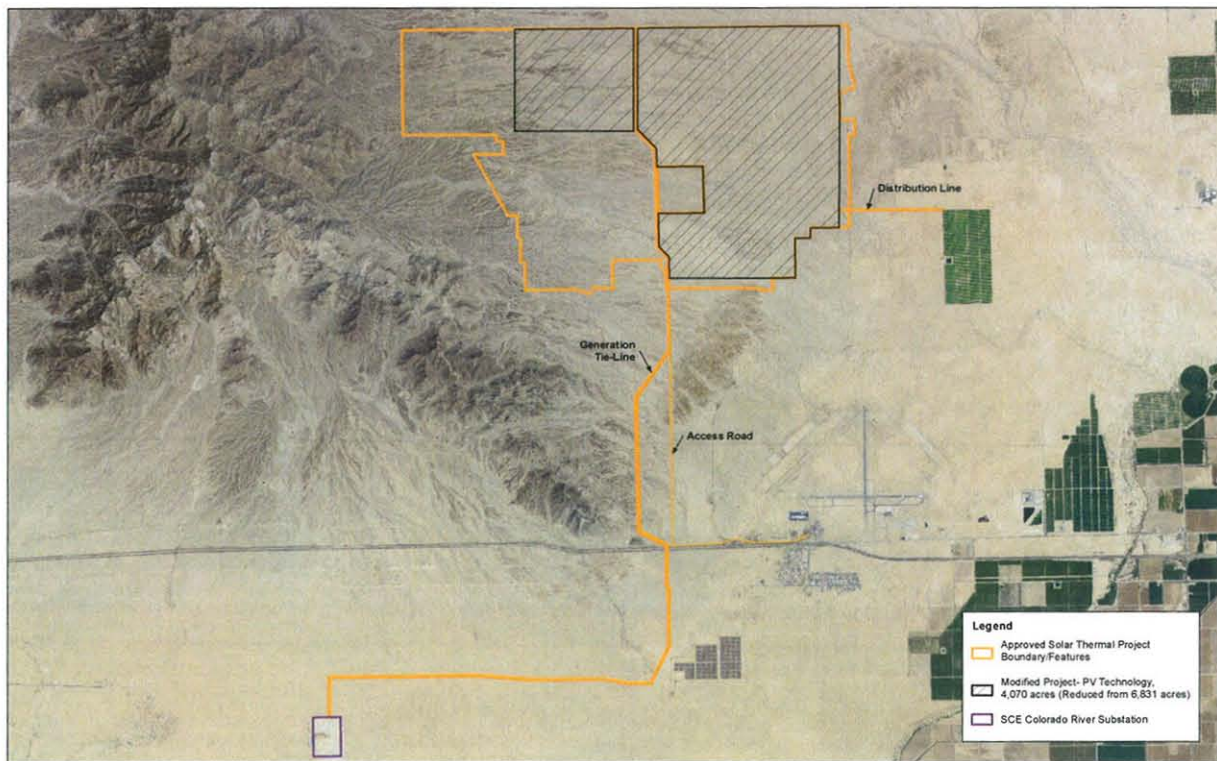
How Blythe Solar Power Project Will Work

As sunlight hits the photovoltaic panel, it is converted into direct current (DC) electricity. The DC is then converted in an inverter into alternating current (AC) electricity used by local electric utilities. Finally, the electricity travels through transformers, and the voltage is boosted for delivery onto the transmission lines so local electric utilities can distribute the electricity to homes and businesses.



Overview

- » Located in Riverside County, California, 13 miles northwest of Blythe, California
- » To be built, owned and operated by a subsidiary of NextEra Energy Resources
- » A proposed 485-megawatt photovoltaic solar energy generating facility
- » Capable of generating enough electricity to power about 171,000 homes annually
- » Sited on approximately 4,300 acres of Bureau of Land Management land
- » Project would be developed in four phases
- » Will avoid approximately 774,000 tons of carbon dioxide emissions annually that would have been produced if the electricity had been generated using fossil fuels
- » Proposed interconnection with the Colorado River Substation
- » Construction could begin by mid-2014



Benefits

- » Safe, clean and reliable power for California
- » Local employment opportunities
 - close to 620 workers during peak construction; two year-average -- about 430 construction workers
 - once operational, 15 to 20 full-time employees
- » Economic stimulus
 - facility payroll
 - increased purchases of local goods and services during construction and long-term operation
- » Increased sales tax revenue
- » Additional demand for local housing

Environmental Permitting

The Bureau of Land Management (BLM), the California Energy Commission (CEC) and other state and federal agencies are participating in the project permitting process.

- Originally approved by both the CEC and BLM as a 1,000-MW solar thermal project
- Permit amendment documents submitted to state and federal agencies in the spring of 2013

Facts at a Glance

Component	Approved Project	Modified Project
Output	1,000 MW	485 MW
Physical Area Disturbed within Solar Plant Site*	6,831 acres	4,138 acres
Water Use During Operations	600 AFY	30 – 40 AFY
Construction Water Use	4,100 AF	700 – 1,200 AF
Cut and Fill	8.3 million cubic yards	0.9 million cubic yards

*Includes the acreage in the linear corridor within the solar plant site (for the gen-tie and access road)

AF – acre feet

AFY – acre-feet per year

MW – megawatt



Overview Blythe Solar Power Project

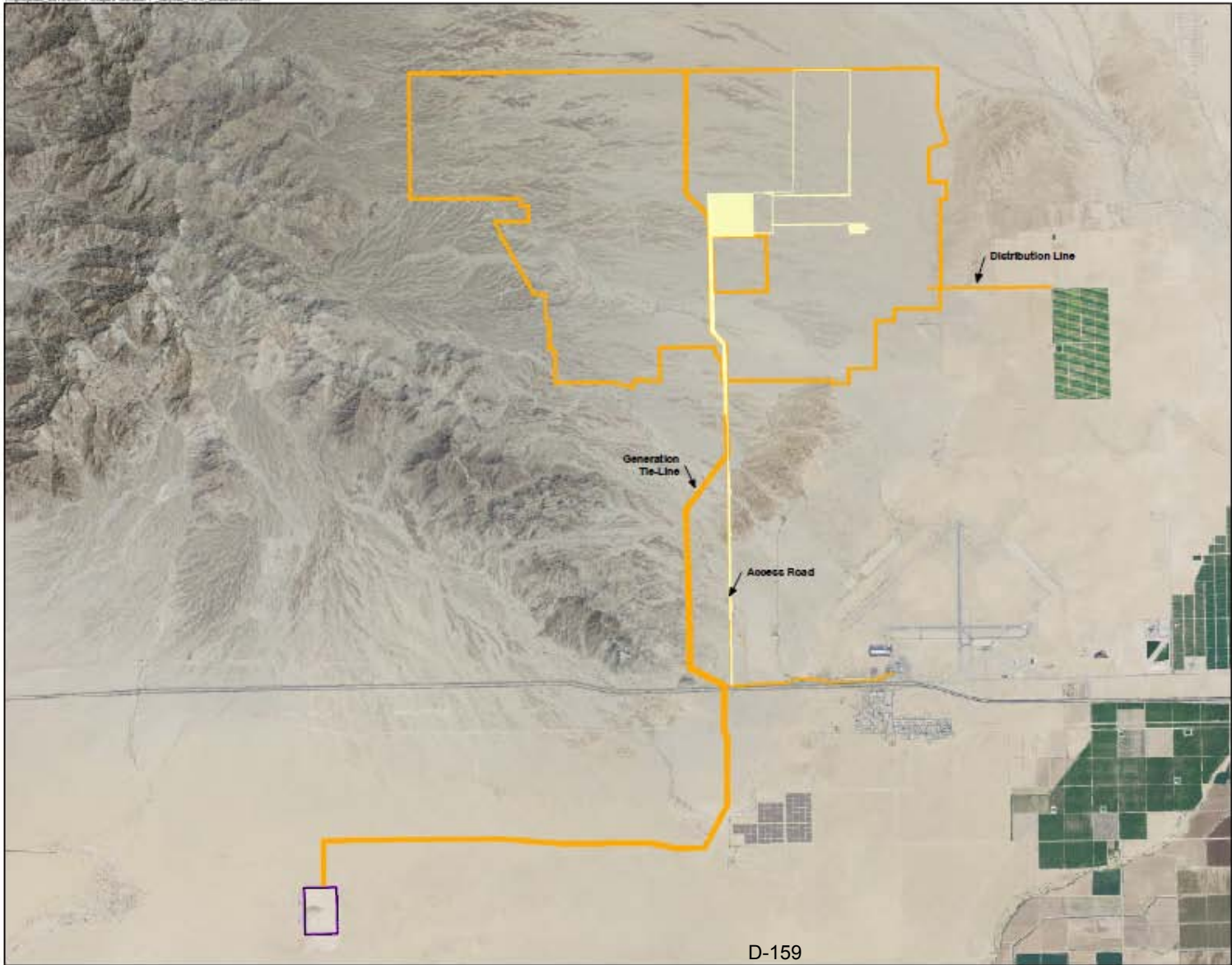
NextEra Blythe Solar Energy Center, LLC

Project History

- **1,000 MW Solar Thermal Project** with a site covering 6,840 acres of Bureau of Land Management (BLM) land
- **Blythe Solar Power Project originally permitted through BLM NEPA process by Solar Millennium**
 - Record of Decision (ROD): October 2010
 - Right of Way (ROW) Grant: November 2010
 - Notice to Proceed (NTP) Phase 1a: November 2010
- **Suspension of activities issued August 2011, after initiating Phase 1a, disturbing approximately 769 acres**
- **Project assets acquired by NextEra Blythe Solar Energy Center, LLC July 2012**
 - Subsequent revisions converting project to photovoltaic (PV) submitted to BLM March 2013
- **Anticipated schedule once permitting is complete**
 - Site access and linears construction – Summer 2014
 - Solar field construction – Spring 2015 – Fall 2016
 - Earliest Commercial Operation Date – December 2016

Blythe Approved Areas

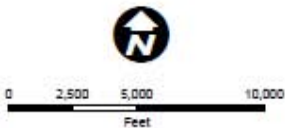
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BLYTHE SOLAR POWER PROJECT RIVERSIDE COUNTY, CA

Legend

- Approved Solar Thermal Project Boundary/Features
- SCE Colorado River Substation
- Disturbed Area



Notes:
(a) UTM Zone 11, NAD 1983 Projection.
(b) Source data: USDA, T1, Worley Parsons

BSPP PROJECT FEATURES

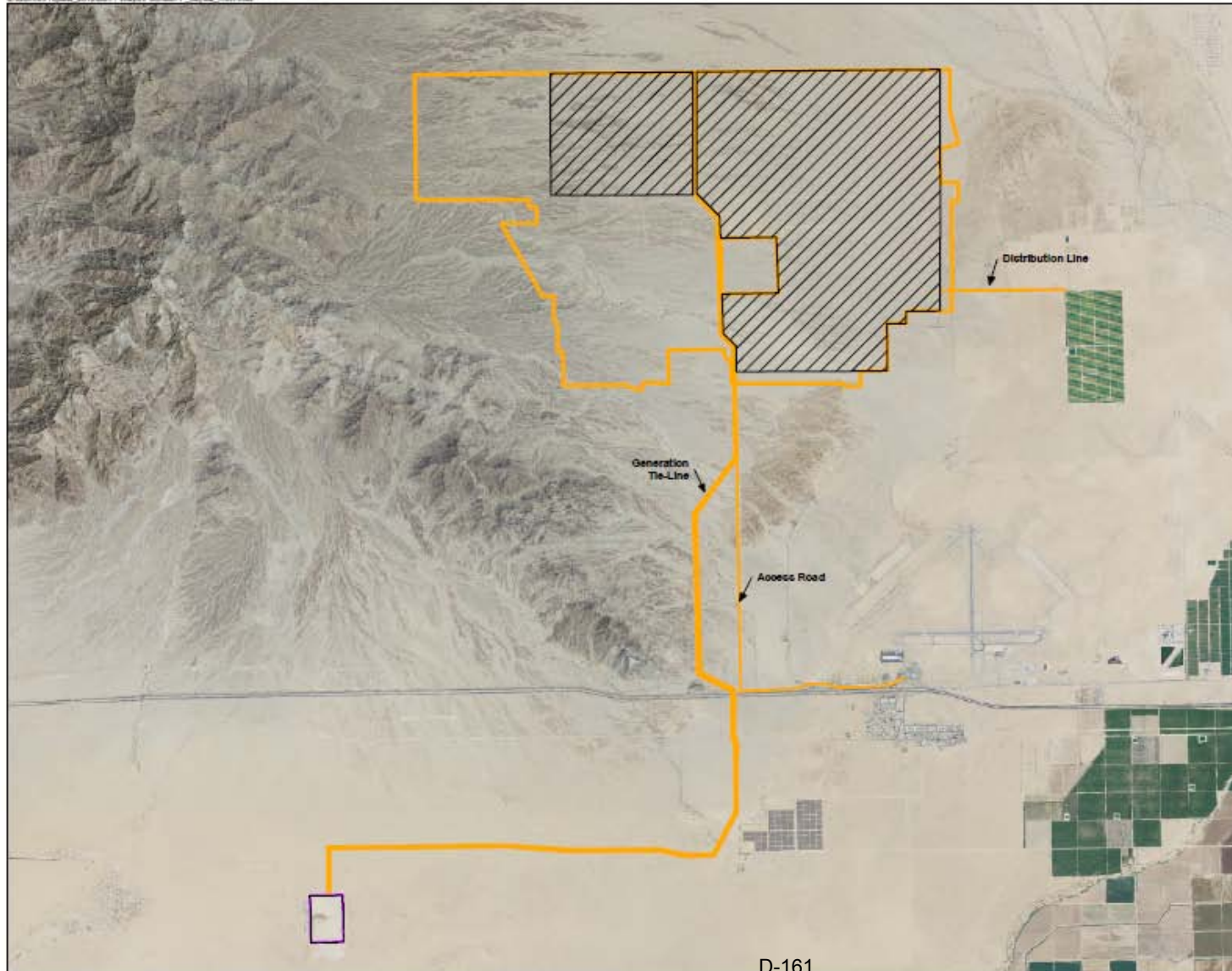


Project Modification

- **Conversion to PV technology**
 - Allows for improvements in grading techniques
 - Reduces water usage, impacts to hydrology, visual and cultural resources
- **Reduction in size**
 - Site reduced to approximately 4,080 acres
 - Remains within approved solar thermal ROW Grant boundary
 - Retains same linear corridor (Generation tie line, Access road, Distribution line)
 - Retreats from western biologically sensitive and eastern Culturally sensitive areas
 - Fully utilizes previously disturbed areas within site boundary
- **Project Phasing**
 - Three 125 MW units which incorporate the project linear facilities, O&M building, and switchyard
 - One 110 MW unit

Blythe Solar Power Project Modified Site

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BLYTHE SOLAR POWER PROJECT RIVERSIDE COUNTY, CA

Legend

- Approved Solar Thermal Project Boundary/Features
- Modified Project- PV Technology, 4,070 acres (Reduced from 6,631 acres)
- SCE Colorado River Substation



0 2,500 5,000 10,000
Feet

Notes:
(a) UTM Zone 11, NAD 1983 Projection.
(b) Source data: USDA, TI, Worley Parsons

BSPP PROJECT FEATURES



Comparison of Approved and Modified Projects

Component	Approved Project	Modified Project
Output	1,000 MW	485 MW
Physical Area Disturbed within Solar Plant Site*	6,831 acres	4,138 acres
Water Use During Operations	600 AFY	30 – 40 AFY
Construction Water Use	4,100 AF	700 – 1,200 AF
Cut and Fill	8.3 million cubic yards	0.9 million cubic yards

NOTE:

*Includes the acreage in the linear corridor within the solar plant site (for the gen-tie and access road)

AF – acre feet

AFY – acre-feet per year

MW – megawatt

Resource Impact Comparison

Environmental Resources	Modified Project Impact as Compared to Approved Project
Air Resources	Less – no HTF; reduction in dust emissions
Global Climate Change	Less – eliminates HTF/natural gas-related emissions
Cultural Resources	Less – 60% original size; designed to avoid cultural resources
Environmental Justice	No Impact
Lands and Realty	Less – 60% original size; reduced land use impacts
Livestock Grazing	No Impact
Mineral Resources	No Impact
Multiple Use Classes	Less – 6831 acres to 4138 acres
Noise	Less – no power blocks or concrete batch plant
Paleontological Resources	Less – 60% size; PV technology requires less grading
Public Health and Safety	Less – lower emissions/hazardous materials
Recreation	Less – reduced impacts to public lands
Social and Economic Setting	Less – fewer workers during construction/operations
Soils Resources	Less – significantly less grading/cut and fill
Special Designations	No Impact
Transportation and Public Access	Less – reduced construction/operations traffic
Vegetation Resources	Less – less impact on native vegetation/dry wash woodlands
Visual Resources	Less – reduced glint/glare; no cooling towers
Water Resources	Less – significantly reduces construction/operations water use
Wildland Fire Ecology	Less – no HTF, reducing fire hazard potential
Wildlife Resources	Less – 60% original size; larger area for wildlife populations

Project Benefits

- **Job creation**

- NextEra Energy Resources typically uses established industry companies for construction
 - Close to 620 workers during peak construction
 - Two year-average -- about 430 construction workers
- Once operational, 15 to 20 full-time employees

- **Renewable Energy**

- Enough electricity to power 171,000 homes annually
- Avoids approximately 774,000 tons of carbon dioxide emissions annually that would have been produced if the electricity had been generated using fossil fuels

APPENDIX E

Cultural Resources

**TABLE E-1
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT**

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-P-410	Prehistoric trail north-south running trail segment, 200 meters long observed and recorded	Prehistoric	Unevaluated
SMB-P-434 (CA-RIV-9812)	Thermal cobble features 3 concentrations of fire-affected cobbles; possible roasting pits; subsurface materials may be present no associated artifacts	Prehistoric	Unevaluated
SMB-H-109 (CA-RIV-9511)	Historic-period refuse scatter 6 cans: Military ration can, other food cans, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Unevaluated
SMB-H-110 (CA-RIV-9512)	Historic-period refuse scatter 4 military ration cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-114 (CA-RIV-9515)	Historic-period refuse scatter 8 cans: military ration cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-115 (CA-RIV-9516)	Historic-period refuse scatter 8 cans: military ration cans, key-wind meat can, church-key-opened beer can bullet casing, braided wire	DTC/C-AMA, 1942-1944 (WWII)	Unevaluated
SMB-H-116 (CA-RIV-9517)	Historic-period refuse scatter 19 cans: hole-in-cap milk cans, food cans, one embossed "SANITARY," a practice dating to the 1800s	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-118 (CA-RIV-9518)	Historic-period refuse scatter 29 cans: military ration cans, milk cans, beer cans, juice can, sardine can, fuel can glass liquor bottle embossed "Federal Law Forbids Sale or Re-Use of This Bottle" military mess-kit spoon (embossed with, "U.S."), bullets, wire	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-120 (CA-RIV-9520)	Historic-period refuse scatter 4 cans: church-key-opened sardine cans, key-wind sanitary can	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-121 (CA-RIV-9521)	Historic-period refuse scatter 15 cans: military ration cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-122 (CA-RIV-9522)	Historic-period refuse scatter 5 cans: military ration cans, other can military mess-kit spoon embossed with "U.S."	DTC/C-AMA 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-123 (CA-RIV-9523)	Historic-period refuse scatter 4 cans: military ration cans, church-key-opened beer can, other can, can lids glass bottle	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-124 (CA-RIV-9524)	Historic-period refuse scatter 11 cans: key-wind sardine cans, other food cans, can lid	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-125 (CA-RIV-9525)	Historic-period refuse scatter 5 cans: military ration cans, key-wind meat can, other food can	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-126 (CA-RIV-9526)	Historic-period refuse scatter military ration cans, other food can glass jar	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-127 (CA-RIV-9527)	Historic-period refuse scatter 4 sanitary cans	Other historic site 20th century	Unevaluated
SMB-H-129 (CA-RIV-9528)	Historic-period refuse scatter military ration can, key-wind sardine can, hole-in-cap can, other food cans 3 glass bottles with 1938 and 1941 maker's marks piece of wooden lath	Prospecting/ranching and DTC/C-AMA Early-to-mid 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-130 (CA-RIV-9529)	Historic-period refuse scatter 2 cans: P-38-opened can, aluminum soft-top beer can glass jugs with 1948 and 1952 maker's marks	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Unevaluated
SMB-H-131 (CA-RIV-9530)	Historic-period refuse scatter 5 cans: military ration can, P-38-opened can, other food cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-132 (CA-RIV-9531)	Historic-period refuse scatter 8 cans: military ration cans, military-issue soluble coffee can, other food cans, can lid	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-133 (CA-RIV-9532)	Historic-period refuse scatter and rock ring (historic hearth) 2 cans: military ration can, other can	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-134 (CA-RIV-9533)	Historic-period refuse scatter 3 cans: military ration cans, sardine can glass bottles	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-135 (CA-RIV-9534)	Historic-period refuse scatter 19 cans: military ration cans, other food cans, milk cans, beer cans, paint can glass bottle fragments metal band, smoke landmine	DTC/C-AMA 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-136 (CA-RIV-9535)	Historic-period refuse scatter 16 cans: military ration cans, meat cans, other food cans, can lids glass jar embossed with 1943 date brass munitions casing, sheet metal	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-137 (CA-RIV-9536)	Historic-period refuse scatter U.S. General Land Office survey marker dated 1917 9 cans: military ration cans, sardine can, beer can, wooden lath pieces	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-138 (CA-RIV-9537)	Historic-period refuse scatter 4 cans: military ration can, military-issue soluble coffee cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-139 (CA-RIV-9538)	Historic-period refuse scatter 8 cans: military ration can, key-wind-opened cans, other cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-140 (CA-RIV-9539)	Historic-period refuse scatter 20 cans: military ration cans, military-issue soluble coffee can, milk can, beer cans, aerosol can, other cans, can lids military mess-kit spoon embossed "U.S.," munitions casings, lath pieces	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-143 (CA-RIV-9540)	Historic-period refuse scatter and well head 3 cans: key-wind-opened meat can, hole-in-cap can, sanitary can milled lumber, galvanized sheet metal piece	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-144 (CA-RIV-9541)	Historic-period refuse scatter 6 cans: military ration can, hole-in-cap can, other food cans, two can lids	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-145 (CA-RIV-9542)	Historic-period refuse scatter 4 cans: church-key-opened cans, hole-in-cap milk can, other food can, can lid glass jar, glass bottle with 1938 maker's mark	Prospecting/ranching Early-to-mid 20th century	Unevaluated
SMB-H-147 (CA-RIV-9543)	Historic-period refuse scatter 6 cans: military ration can, other food cans, milk can, baking powder can, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Not eligible for NRHP
SMB-H-148 (CA-RIV-9544)	Historic-period refuse scatter 6 cans: military ration can, hole-in-cap milk can, other food cans, can lid	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Not eligible for NRHP

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-154 (CA-RIV-9548)	Historic-period refuse scatter (two concentrations) 14 cans (east concentration): military ration cans, military-issue soluble coffee cans, P-38-opened can, other food cans saw-cut bone fragments (large mammal) boot sole flat glass fragment 23 cans (west concentration): solder-dot cans, other food cans	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Not eligible for NRHP
SMB-H-155 (CA-RIV-9549)	Historic-period refuse scatter 5 cans: military ration cans, can adapted as a pail, coffee can, paint can glass canning jar wooden lath pieces, plank, embossed sheet metal	DTC/C-AMA 1942-1944 (WWII)	Not eligible for NRHP
SMB-H-156 (CA-RIV-9550)	Historic-period refuse scatter 38 cans: military ration cans, military soluble coffee can, milk cans, sardine can, other food cans, beer cans (some church-key-opened, some aluminum soft-top type), can lids, glass bottles with maker's marks (dates not researched/provided)	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII)	Not eligible for NRHP
SMB-H-159 (CA-RIV-9553)	Historic-period refuse scatter 7 cans: military ration can, baking powder cans, milk can, key-wind-opened meat can, other food can	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Not eligible for NRHP
SMB-H-165 (CA-RIV-9559)	Historic-period refuse scatter 35 cans: military ration cans, sardine can, key-wind-opened meat can, milk cans, church-key-opened beer cans, other food cans (some P-38-opened), can lids (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-166 (CA-RIV-9560)	Historic-period refuse scatter 38 cans: hole-in-cap milk cans, key-wind-opened meat can, other food cans (including one knife-cut-X-opened, dating to the early 20th century), can lid glass jar (no detailed can recordation, and glass container maker's marks not noted and/or not researched or dates not provided)	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-167 (CA-RIV-9561)	Historic-period refuse scatter 36 cans: hole-in-cap milk can, key-wind-opened meat can, knife-cut-X-opened can, other food cans (some P-38-opened), can lids, fuel can glass jars metal bucket military ration can, smoke landmine	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Not eligible for NRHP

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-167 (CA-RIV-9561) (cont.)	(no detailed can recordation, and glass container maker's marks not noted and/or not researched or dates not provided)		
SMB-H-171 (CA-RIV-9565)	Historic-period refuse dump 166 cans: military ration cans, milk cans, sardine cans, military-issue soluble coffee cans, key-wind-opened meat can, tobacco tin, other food cans, can lids, beer cans (some church-key-opened, some aluminum soft-top type), oil and fuel cans glass bottle fragments, glass jar, threaded metal jar lid, mess-kit spoon embossed "U.S." (no detailed can recordation and glass container maker's marks not noted and/or not researched or dates not provided)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-177 (CA-RIV-9569)	Historic-period refuse scatter 12 cans: sardine can; milk cans, other food cans, beer cans (some church-key-opened beer, some aluminum soft-top type) (no detailed can recordation)	Prospecting/ranching and possibly Desert Strike Early 20th century and late 20th century	Unevaluated
SMB-H-178 (CA-RIV-9570)	Historic-period refuse dump and rock alignment (interpreted as an aerial marker pointing at a survey monument) 226 cans: food cans, beverage cans, oil cans, fuel cans glass bottle with probable 1970s embossing pail, propane tank, jack, hack saw, vehicle tire (no detailed can recordation)	Other historic site 20th century	Unevaluated
SMB-H-179 (CA-RIV-9571)	Historic-period refuse scatter 4 cans: hole-in-cap cans, other food cans	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-180 (CA-RIV-9572)	Historic-period refuse scatter 5 cans: military ration can, P-38-opened food cans, other food can, aluminum soft-top beer can	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Not eligible for NRHP
SMB-H-186 (CA-RIV-9578)	Historic-period refuse scatter 8 cans: bayonet-opened food cans, hole-in-cap milk can, coffee can	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-189 (CA-RIV-9579)	Historic-period refuse scatter 12 cans: military ration can, military-issue soluble coffee can, beer cans (church-key-opened and aluminum soft-top type), knife-cut-X-opened cans, oil can glass bottles with post-1932, 1942, 1970s maker's marks	Other historic site and possibly Desert Strike 20th century	Unevaluated
SMB-H-190 (CA-RIV-9580)	Historic-period refuse scatter 6 cans: military ration can, other food cans, key-wind-opened meat can, church-key-opened beer can, aluminum soft-top beer can	Other historic site Early-to-mid 20th century	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-191 (CA-RIV-9581)	Historic-period refuse scatter 4 bayonet-opened cans glass bottle with 1858-1895 maker's mark, glass jar with 1932-1942 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-192 (CA-RIV-9582)	Historic-period refuse scatter 4 cans: P-38-opened cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-193 (CA-RIV-9583)	Historic-period refuse scatter 4 cans: bayonet-opened cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-194 (CA-RIV-9584)	Historic-period refuse scatter 5 cans: hole-in-top milk can, church-key-opened cans, other food cans glass jar with 1920-1964 maker's mark	Prospecting/ranching Mid-20th century	Not eligible for NRHP
SMB-H-229 (CA-RIV-9618)	Historic-period refuse scatter 6 cans: military ration can, paint can, other food cans, pull-top beverage cans (no detailed can recordation)	Other historic site 20th century	Unevaluated
SMB-H-230 (CA-RIV-9619)	Historic-period refuse scatter 4 cans: military ration can, other food cans, key-wind-opened meat can, can lid (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-231 (CA-RIV-9620)	Historic-period refuse scatter 4 cans: key-wind-opened sardine can, other food cans (one rotary-opened), baking powder can (no detailed can recordation)	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-232 (CA-RIV-9621)	Historic-period refuse scatter 8 cans: military ration can, other food cans, can lids glass bottle with post-1938 maker's mark (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-233 (CA-RIV-9622)	Historic-period refuse scatter 11 cans: military ration cans, other food cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-234 (CA-RIV-9623)	Historic-period refuse scatter and cairn 19 cans: military ration cans, other food cans, beer cans (most aluminum soft-top type), can lid	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Unevaluated
SMB-H-235 (CA-RIV-9624)	Historic-period refuse scatter 8 cans: military ration cans, milk can, meat can, other food cans wire, sheet metal, munitions casing (can recordation incomplete—no filling method data—and illegible)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-236 (CA-RIV-9625)	Historic-period refuse scatter 12 cans: military ration cans, milk can, other food can (can recordation incomplete—no filling method data—and illegible)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-283 (CA-RIV-9652)	Historic-period refuse scatter 12 cans: milk cans, other food cans, church-key-opened beer can, fuel can glass bottle with 1935 or 1945 maker's mark	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-287 (CA-RIV-9656)	Historic-period refuse scatter 82 car parts 21 glass fragments suggestion that these associated with ranch site 404	Other historic site 20th century	Unevaluated
SMB-H-288 (CA-RIV-9657)	Historic-period refuse scatter 2 cans: milk can, other food can car parts, alarm clock parts, gasket suggestion that these associated with ranch site 404	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-290 (CA-RIV-9658)	Historic-period refuse scatter 10 cans: hole-in-cap milk cans, church-key-opened cans, other food cans (some P-38-opened)	Prospecting/ranching, DTC/C-AMA, and possibly Desert Strike Early 20th century and 1942-1944 (WWII)	Not eligible for NRHP
SMB-H-401 (CA-RIV-9660)	Historic-period refuse scatter 4 cans: food cans (opened with lever-type, or "jab and lift," opener, 1855-present), can lid, tobacco can with hinged lid	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-402 (CA-RIV-9661)	Historic-period refuse scatter 4 cans: hole-in-cap milk cans, other food can cans partially embedded in ground, suggesting possible additional remains subsurface	Prospecting/ranching Early 20th century	Not eligible for NRHP
SMB-H-403 (CA-RIV-9662)	Historic-period oil can dump 67 motor oil cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-404 (CA-RIV-9663)	Historic-period ranch 3 stone and concrete structures, watering trough cans (no count or description provided, except that aluminum soft-top beer cans were noted) glass and ceramic fragments vehicle parts sheet metal, pipes, chicken wire cinder blocks, milled lumber, fencing components military ration cans, smoke landmines, munitions casings and clips	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-406 (CA-RIV-9664)	Historic-period refuse scatter 6 cans: sanitary cans, key-wind meat cans, tobacco can with hinged lid wood pile, cluster of quartz rocks	Prospecting/ranching Early 20th century	Not eligible for NRHP
SMB-M-407 (CA-RIV-9665)	Historic-period refuse scatter 7 cans: military ration can, milk can, other food cans, church-key-opened beer can, can re-used as pail milled lumber one lithic flake isolate	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-408 (CA-RIV-9666)	Historic-period refuse scatter and possible historic-period rock hearth (rocks thermally altered, no charcoal present) 4 cans: sanitary food cans (knife-cut-circle-opened or rotary-opened) saw-cut faunal bone fragment	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-409 (CA-RIV-9667)	Historic-period refuse scatter 3 cans: food cans, tobacco can with hinged lid glass soda bottle embossed with "1938" date (no detailed can recordation)	Prospecting/ranching Early 20th century	Not eligible for NRHP
SMB-H-411 (CA-RIV-9668)	Historic-period geoglyph, long narrow oval (possible aerial marker) no associated artifacts	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-413 (CA-RIV-9669)	Historic-period refuse scatter 3 cans: hole-in-top milk cans, coffee can glass jars and glass jar fragments (condiments)	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-414 (CA-RIV-9670)	Historic-period refuse scatter 5 cans: key-wind meat can, "matchstick filler"-type milk can, other food cans, can lids wire bundle, ironwood firewood pile	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-415 (CA-RIV-9671)	Historic-period refuse scatter 26 cans: P-38-opened cans, hole-in-cap milk cans, military-issued soluble coffee can, baking powder can, pocket tobacco tin with hinged lid solarized bottle glass fragments	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-416 (CA-RIV-9672)	Historic-period refuse scatter 5 cans: military ration cans, other food can, milk can, oil can wooden ramp	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-417 (CA-RIV-9673)	Historic-period refuse scatter 6 cans: food can, "matchstick filler"-type milk can, oil cans	DTC/C-AMA 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-M-418 (CA-RIV-9979)	Historic-period refuse scatter and rock hearth (rocks thermally affected; 1 rock an assayed cobble) 7 cans: food cans, hinged-lid tobacco cans, milk can, lard pail glass catsup bottle with post-1888 maker's mark and metal threaded cap (this site should probably be tested as a possible thermal cobble feature)	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-419 (CA-RIV-9674)	Historic-period refuse scatter in 2 loci locus 1 6 cans: 1 food can, 1 fuel can window glass fragments wire, munitions clips, horseshoe nails, miscellaneous hardware, wooden ramps locus 2 5 cans: food cans, hinged-lid can (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-420 (CA-RIV-9675)	Historic-period refuse scatter 9 cans: oval sardine cans, milk cans, other food cans milled lumber piece (no detailed can recordation)	Prospecting/ranching Early 20th century	Unevaluated
SMB-H-423 (CA-RIV-9676)	Historic-period refuse and airplane crash debris scatter 28 cans: military ration cans, military soluble coffee can, milk cans, other food cans (P-38-opened, knife-cut-opened, punched-hole opened, bayonet-opened), fuel can, aluminum soft-top beer cans 300 airplane fragments	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Unevaluated
SMB-H-424 (CA-RIV-9677)	Historic-period refuse scatter 37 cans: military ration cans, other food cans, military-issue soluble coffee can, milk cans, sardine can, aluminum soft-top beer can, fuel can glass jar wooden lath piece (no detailed can recordation)	DTC/C-AMA and possibly Desert Strike 1942-1944 (WWII) and late 20th century	Unevaluated
SMB-H-426 (CA-RIV-9678)	Historic-period refuse scatter 13 cans: knife-cut-opened sanitary cans (11 probably contained liquid, such as fruit juice) modern glass bottle (Anheiser Busch) (partially or nearly entirely buried "in desert pavement"—suggests aggrading environment)	Prospecting/ranching Early 20th century	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-427 (CA-RIV-9679)	Historic-period refuse dump 93 cans recorded (all?): military ration cans, cocoa powder can, other food cans (almost all P-38-opened), spice cans, beer or beverage cans, oil cans glass condiment jar, glass fragments with circa 1939 maker's mark munitions casings (.22 caliber)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-439 (CA-RIV-9682)	Historic-period refuse scatter 7 cans: military ration cans, meat can, milk can, other food cans, can lid (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-442 (CA-RIV-9683)	Historic-period refuse scatter 25 cans: military ration can, other food cans (most P-38-opened), spice can, tobacco can with hinged lid, can lids glass bottle fragments, flat glass fragments bucket, crown bottle caps, wire, nail, bucket handles, wire (no detailed can recordation)	Prospecting/ranching and DTC/C-AMA Early 20th century and 1942-1944 (WWII)	Unevaluated
SMB-H-447 (CA-RIV-9686)	Historic-period refuse scatter 10 cans: meat cans, hole-in-cap food cans, Coors beer can (no detailed can recordation)	Other historic site 20th century	Unevaluated
SMB-H-450 (CA-RIV-9687)	Historic-period refuse scatter 7 cans: hole-in-cap food cans, military ration cans, other food cans (most P-38-opened) glass jar with Ball maker's mark (not dateable) (no detailed can recordation)	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-460 (CA-RIV-9690)	Historic-period refuse scatter 8 cans: military ration cans, sardine can, other food can, baking soda can, fuel cans braided wire	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-507 (CA-RIV-9692)	Historic-period refuse scatter 5 cans: hole-in-cap can, military ration can, aluminum soft-top beer can (no detailed can recordation)	Other historic site and possibly Desert Strike 20th century	Unevaluated
SMB-H-508 (CA-RIV-9693)	Historic-period refuse scatter 5 cans: aluminum soft-top beer cans, food can	Other historic site and possibly Desert Strike 20th century	Unevaluated
SMB-H-509 (CA-RIV-9694)	Historic-period refuse scatter 3 cans: military ration can, other food can, milk can glass jar fragment with post-1940 maker's mark	DTC/C-AMA 1942-1944 (WWII)	Unevaluated

TABLE E-1 (Continued)
CULTURAL RESOURCES SUBJECT TO POTENTIAL IMPACTS FROM THE MODIFIED PROJECT

Resource Type and Identifying Number (Permanent Trinomial in parentheses)	Resource Description	Cultural Components and Dates	NRHP Eligibility Determination
SMB-H-513 (CA-RIV-9695)	Historic-period refuse scatter 6 cans: hole-in-cap milk can, key-wind meat cans, other food can, aluminum-top pull-tab beer can (no detailed can recordation)	Prospecting/ranching and possibly Desert Strike Early and late 20th century	Unevaluated
SMB-H-527 (CA-RIV-9703)	Historic-period refuse scatter 10 cans: military ration cans, key-wind meat cans, other food cans, hole-in-cap milk can, church-key-opened beer can, aluminum soft-top beer cans, fuel can (no detailed can recordation)	Other historic site (possibly Desert Strike(?)) Mid-to-late 20th century	Unevaluated
SMB-H-529 (CA-RIV-9705)	Historic-period refuse scatter 33 cans: military ration cans, other food cans (some p-38-opened), milk can, beer cans milled lumber	DTC/C-AMA 1942-1944 (WWII)	Unevaluated
SMB-H-600 (CA-RIV-9983)	Historic-period road, N-S-running dirt two-track; site forms says, "associated with the gypsum mines in Midland"	Early 20th century roads Early 20th century	Not eligible for NRHP
SMB-H-601 (CA-RIV-9981)	Historic-period road, N-S-running along a section line between Blythe Airport and a road south of McCoy Wash scattered refuse deposits occur along the road, many dating to the early 20th century and thought to represent sheep ranching in this area	Early 20th century roads Early 20th century	Not eligible for NRHP
CA-RIV-1464	Originally recorded as a prehistoric trail. Likely a modern property boundary.	Prehistoric?	Unevaluated

APPENDIX F

Visual Contrast Rating Worksheets

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET


Date 11/01/2013

District Palm Springs

Resource Area

Activity (program) Solar (PV)

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	4. Location Township 5, 6 S Range 21, 22 E Section Multiple	5. Location Sketch 
2. Key Observation Point KOP 1		
3. VRM Class VRM Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, curved, linear roads
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads
TEXTURE	Moderate mesa patterns, course mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar fields
LINE	Graded horizontal	Removed	Horizontal solar fields
COLOR	Light to medium tan	Removed	Dark grey solar fields
TEXTURE	Smooth surfaces	Removed	Smooth solar fields

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None			
																3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)
ELEMENTS	Form			X				X					X			Evaluator's Names Allisa Carlson Date 11/01/13
	Line			X			X				X					
	Color			X			X				X					
	Texture			X			X				X					

SECTION D. (Continued)

Comments from item 2.

Modified Project would create a contrast primarily in line, color, and texture on the gentle slope of the bajada between the more rugged and complex mountains beyond. The Modified Project would be situated at an elevation that is level with the viewer's perspective. Views of the project could be longer at this location. The Modified Project would be visually apparent, but would not dominate the landscape due to distance, atmospheric haze (when present), and vegetation in the foreground.

Additional Mitigating Measures (See item 3)

Mitigation measures are discussed in the EIS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

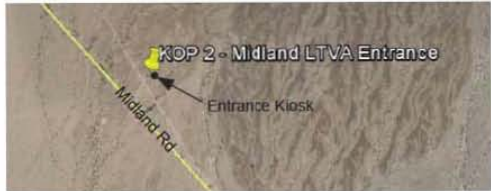
Date 11/01/2013

District Palm Springs

Resource Area

Activity (program) Solar (PV)

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	4. Location Township 5, 6 S Range 21, 22 E Section Multiple	5. Location Sketch 
2. Key Observation Point KOP 2		
3. VRM Class VRM Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, curved, linear roads
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads
TEXTURE	Moderate mesa patterns, coarse mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar fields
LINE	Graded horizontal	Removed	Horizontal solar fields
COLOR	Light to medium tan	Removed	Dark grey solar fields, tan structures
TEXTURE	Smooth surfaces	Removed	Smooth solar fields and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverse side)		
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)						
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None			
																3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)
ELEMENTS	Form			X				X			X					Evaluator's Names Allisa Carlson Date 11/01/13
	Line			X			X			X						
	Color		X				X			X						
	Texture		X				X			X						

SECTION D. (Continued)

Comments from item 2.

The Modified Project would create more contrast in this location than experienced at KOP 1, due to a closer proximity to the Modified Project and broad long-term views that could be experienced from this location. The viewer would be slightly inferior to the Modified Project, which can increase spatial dominance. The Modified Project would be located on a gently sloping bajada at the base of the McCoy Mountains, creating a darkly colored "seam" and visual interruption in the typically smooth transition between the mountain slopes and valley floor. Because the Modified Project would be slightly elevated from this KOP, the existing vegetation would not adequately screen the Modified Project.

Additional Mitigating Measures (See item 3)

Mitigation measures are discussed in the EIS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET


Date 11/01/2013

District Palm Springs

Resource Area

Activity (program) Solar (PV)

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	4. Location Township 5, 6 S Range 21, 22 E Section Multiple	5. Location Sketch 
2. Key Observation Point KOP 3		
3. VRM Class VRM Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads and railroad; rectangular buildings
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roads and railroad; horizontal and vertical structures
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tans of roads; white structures
TEXTURE	Moderate mesa patterns, coarse mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar fields, cubed structures
LINE	Graded horizontal	Removed	Horizontal solar fields
COLOR	Light to medium tan	Removed	Dark grey solar fields
TEXTURE	Smooth surfaces	Removed	Smooth solar fields

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)			
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)							
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None				
ELEMENTS		Form			X				X					X		3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
		Line			X				X			X					
		Color			X				X			X					
		Texture			X				X			X					
														Evaluator's Names Allisa Carlson		Date 11/01/13	

SECTION D. (Continued)

Comments from item 2.

The Modified Project is largely obscured by topographic berms, existing agriculture (structures, buildings, and row crops), and transmission poles and lines. The viewer would be at an inferior position, which can increase spatial dominance, but is mitigated by existing cultural modifications, vegetation, and topography at this KOP. Views could be longer from this location. The Modified Project would create a moderate to weak contrast in line and color.

Additional Mitigating Measures (See item 3)

Mitigation measures are discussed in the EIS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET


Date 11/01/2013

District Palm Springs

Resource Area

Activity (program) Solar (PV)

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	4. Location Township 5, 6 S Range 21, 22 E Section Multiple	5. Location Sketch 
2. Key Observation Point KOP 4		
3. VRM Class VRM Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Narrow planar roads and railroad; rectangular buildings; narrow poles
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear roads and railroad; horizontal and vertical structures; vertical poles
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens; dark green	Light to medium tans of roads; white structures
TEXTURE	Moderate mesa patterns, coarse mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine roads, smooth building surfaces

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar fields, cubed structures
LINE	Graded horizontal	Removed	Horizontal solar fields, geometric structures
COLOR	Light to medium tan	Removed	Dark grey solar fields, light structures
TEXTURE	Smooth surfaces	Removed	Smooth solar fields and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None		
														3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
ELEMENTS	Form			X				X				X		Evaluator's Names Allisa Carlson Date 11/01/13	
	Line			X				X				X			
	Color			X				X				X			
	Texture			X				X				X			

SECTION D. (Continued)

Comments from item 2.

The Modified Project is largely obscured by cultural modifications, including existing agriculture (structures, buildings, and row crops), and transmission poles and lines. The viewer would be at an inferior position, which can increase spatial dominance, but is mitigated by existing cultural modifications, vegetation, and topography at this KOP. Views could be longer from this location. The Modified Project would create a moderate to weak contrast in line and color due to existing cultural modifications, distance, and atmospheric haze (when present).

Additional Mitigating Measures (See item 3)

Mitigation measures are discussed in the EIS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET


Date 11/01/2013

District Palm Springs

Resource Area

Activity (program) Solar (PV)

SECTION A. PROJECT INFORMATION

1. Project Name Blythe Solar Power Project	4. Location Township 5, 6 S Range 21, 22 E Section Multiple	5. Location Sketch 
2. Key Observation Point KOP 5		
3. VRM Class VRM Class III		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat mesa, steep-sided and pyramidal mountainous backdrops	Irregular organic mosaics of shrubs and complex irregular patterns of woodland scrub trees and shrubs	Wide planar runways; rectangular buildings; narrow poles
LINE	Complex horizontal, inclined, angular mix of mesa and mountains	Horizontal, curvilinear, inclined angular	Horizontal, linear runways; horizontal and vertical structures; vertical poles
COLOR	Light tans to dark, reddish browns	Light golds and tans to reddish browns and light sage greens	Light to medium tan and grey runways; white and red structures
TEXTURE	Moderate mesa patterns, coarse mountain mosaics	Fine to moderate shrub patterns, moderate woodland scrub trees and shrubs	Fine runways, smooth structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Graded planar, horizontal	Removed	Planar solar fields, cubed structures
LINE	Graded horizontal	Removed	Horizontal solar fields, geometric structures
COLOR	Light to medium tan	Removed	Dark grey solar fields, light structures
TEXTURE	Smooth surfaces	Removed	Smooth solar fields and structures

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None		
														3. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
ELEMENTS	Form			X				X				X		Evaluator's Names Allisa Carlson Date 11/01/13	
	Line			X				X				X			
	Color			X				X				X			
	Texture			X				X				X			

SECTION D. (Continued)

Comments from item 2.

The Modified Project would create a moderate to weak contrast in form and color due to existing cultural modifications in the foreground, distance, and atmospheric haze (when present).

Additional Mitigating Measures (See item 3)

Mitigation measures are discussed in the EIS.